

Appendix A

RF Test Data for BT V4.2 (BDR/EDR) (Conducted Measurement)

Product Name: VISION SB-1900P Active Soundbar

Trade Mark: VISION

Test Model: SB-1900P

Environmental Conditions

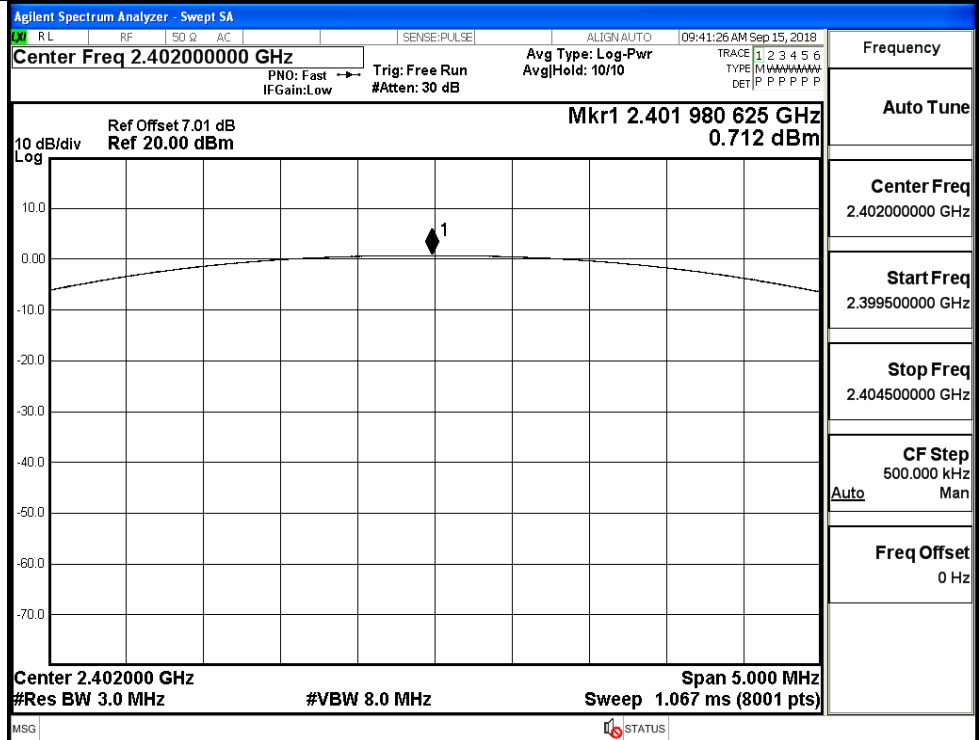
Temperature:	24.1 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina Xu
Supervised by:	Jayden Zhuo

A.1 Maximum Conducted Peak Output Power

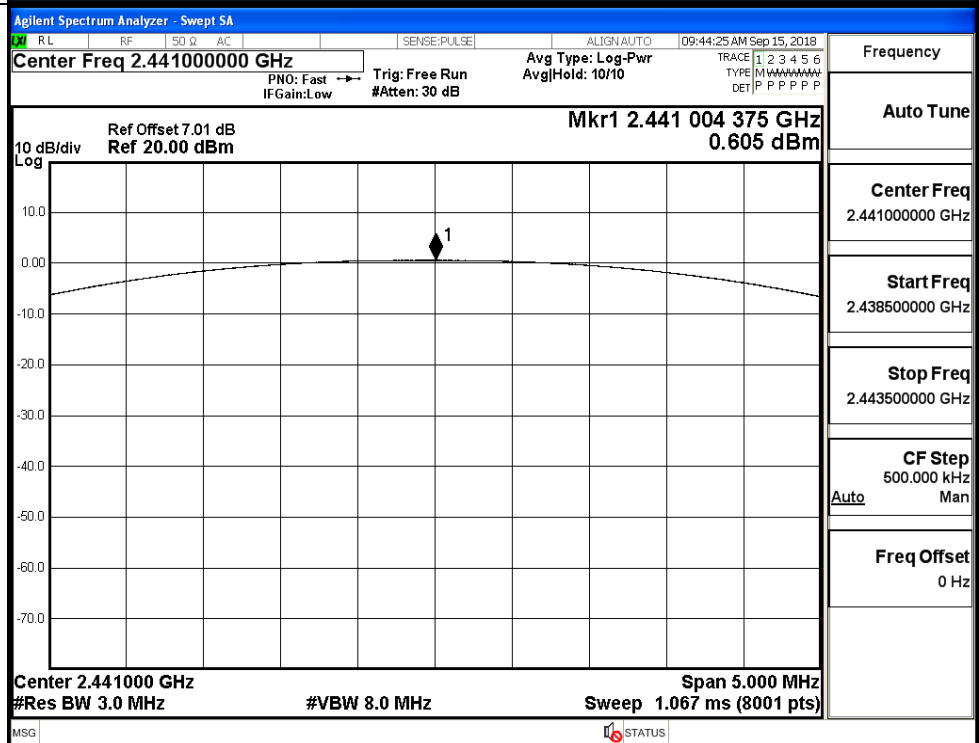
Mode	Channel.	Maximum Peak Output Power [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.712	21	PASS
	MCH	0.605	21	PASS
	HCH	0.378	21	PASS
$\pi/4$ DQPSK	LCH	0.514	21	PASS
	MCH	0.410	21	PASS
	HCH	0.171	21	PASS

Test Graphs

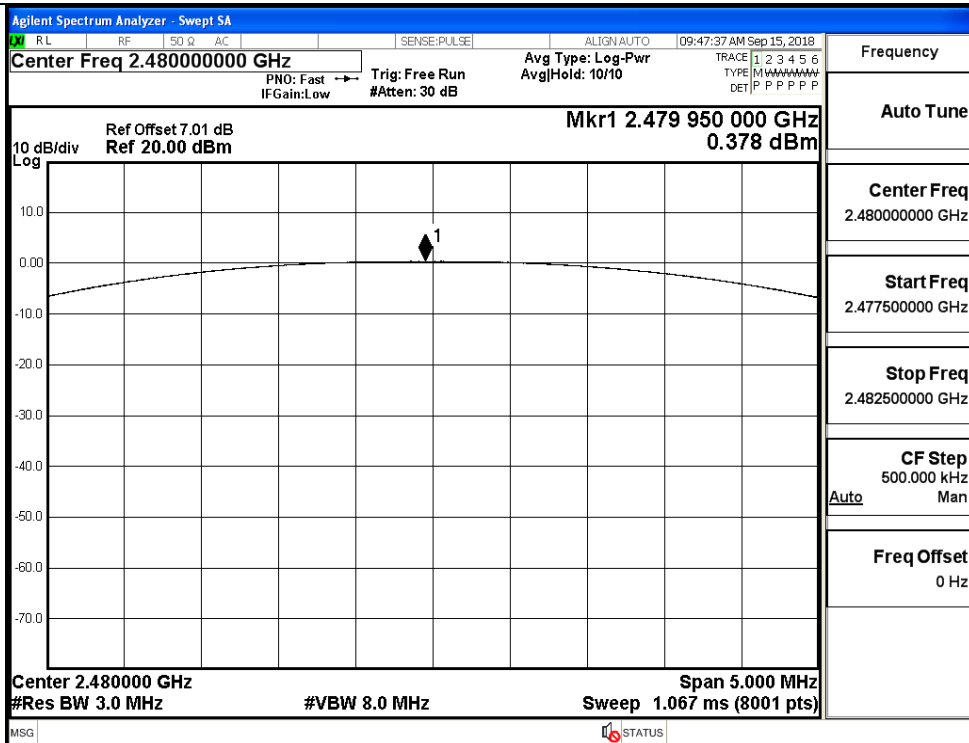
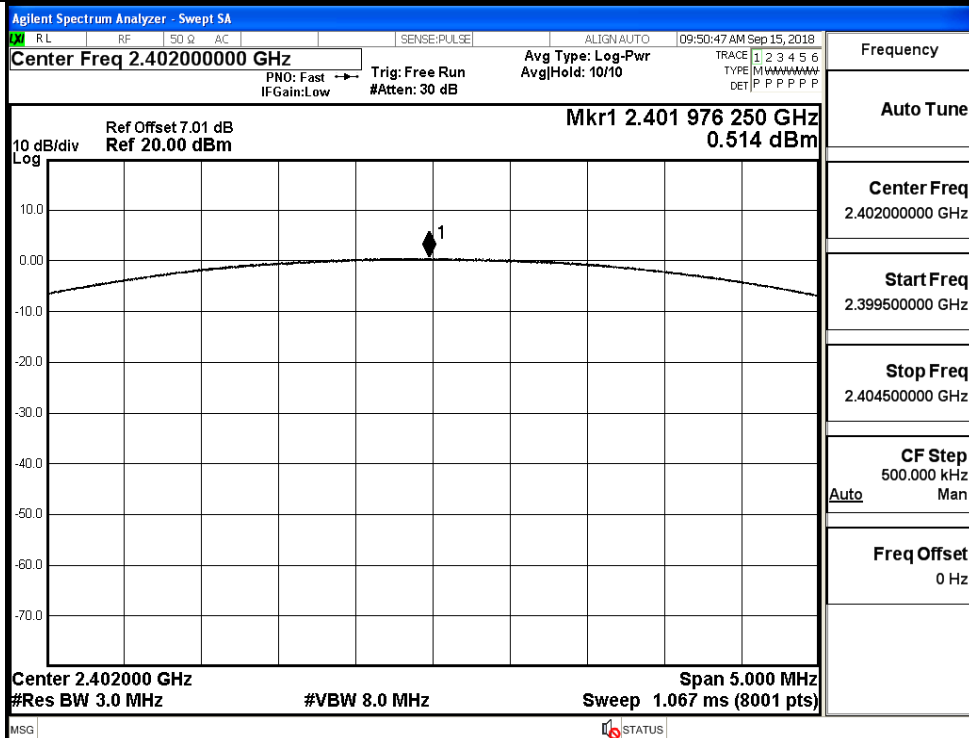
GFSK/LCH

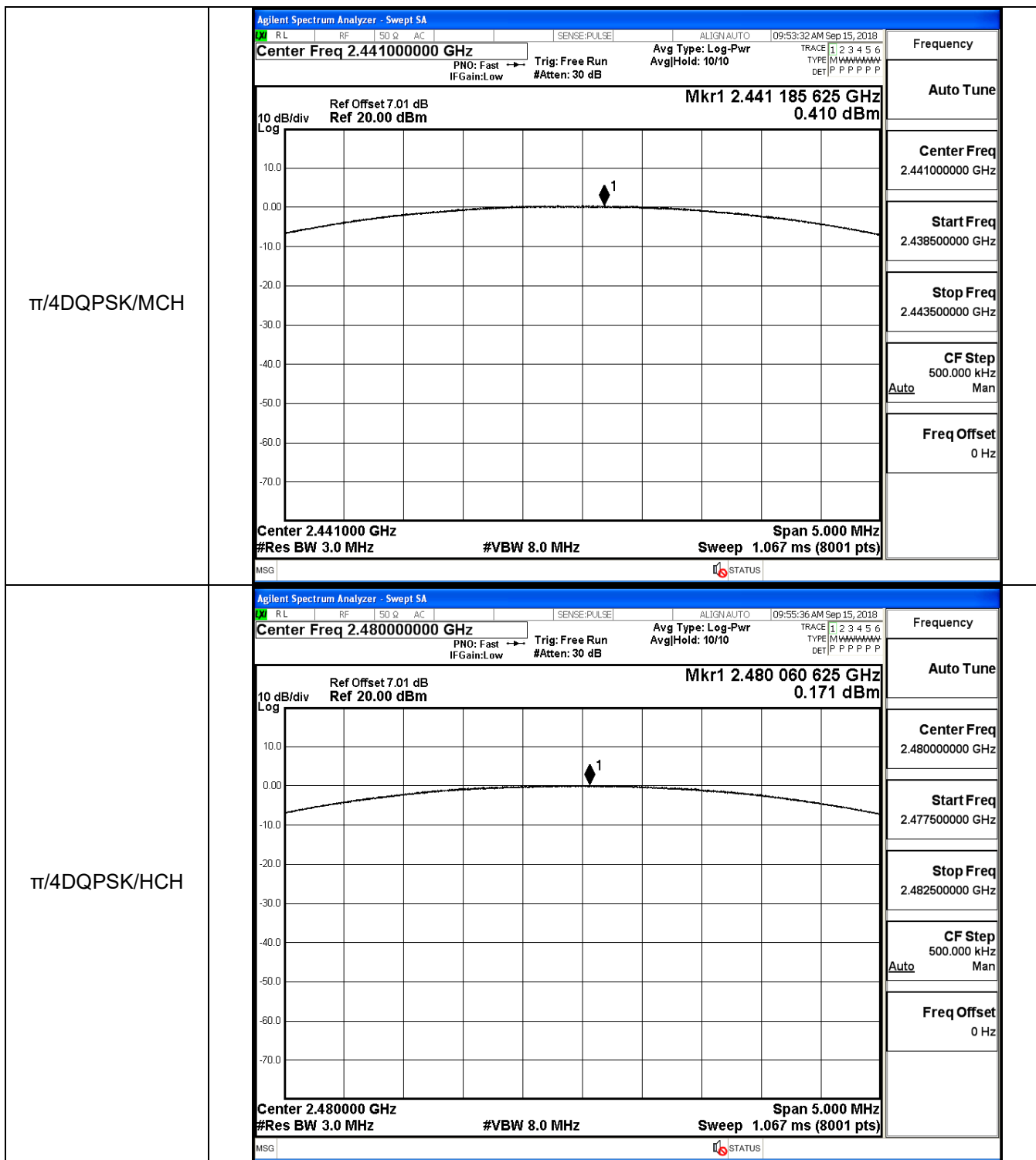


GFSK/MCH



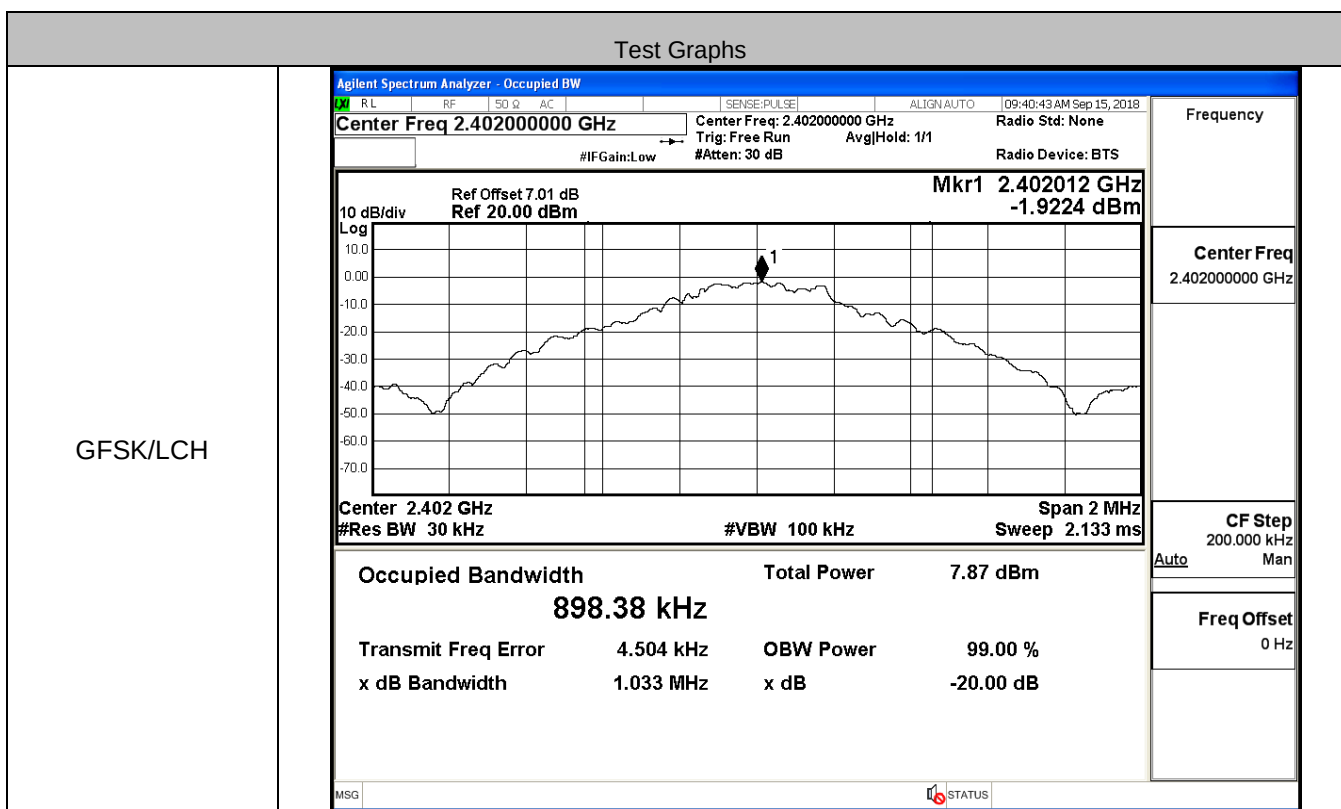
GFSK/HCH

 π /4DQPSK/LCH

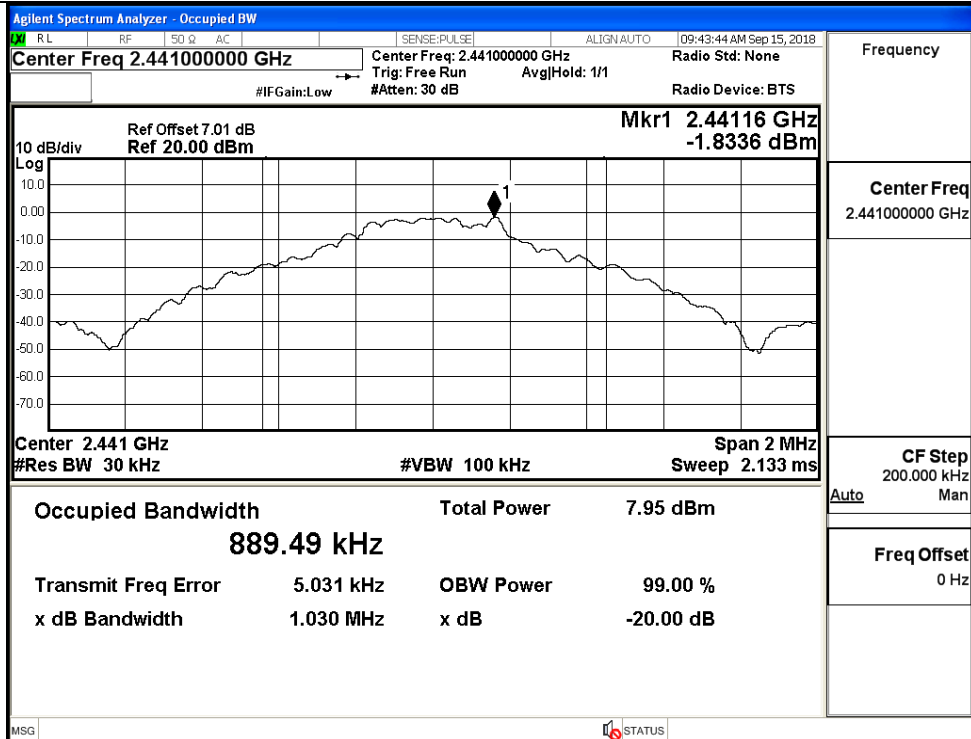


A.2 99% and 20dB Bandwidth

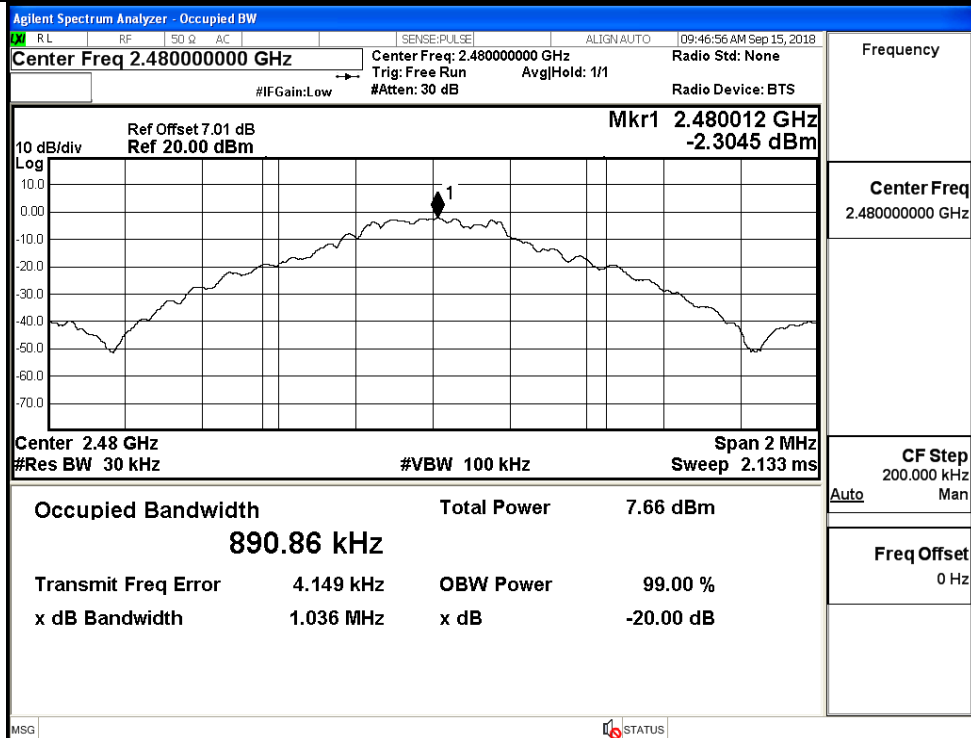
Mode	Channel.	99% Bandwidth [MHz]	20dB Bandwidth [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.89838	1.033	Not Specified	PASS
	MCH	0.88949	1.030	Not Specified	PASS
	HCH	0.89086	1.036	Not Specified	PASS
π /4DQPSK	LCH	1.1674	1.288	Not Specified	PASS
	MCH	1.1671	1.286	Not Specified	PASS
	HCH	1.1669	1.285	Not Specified	PASS

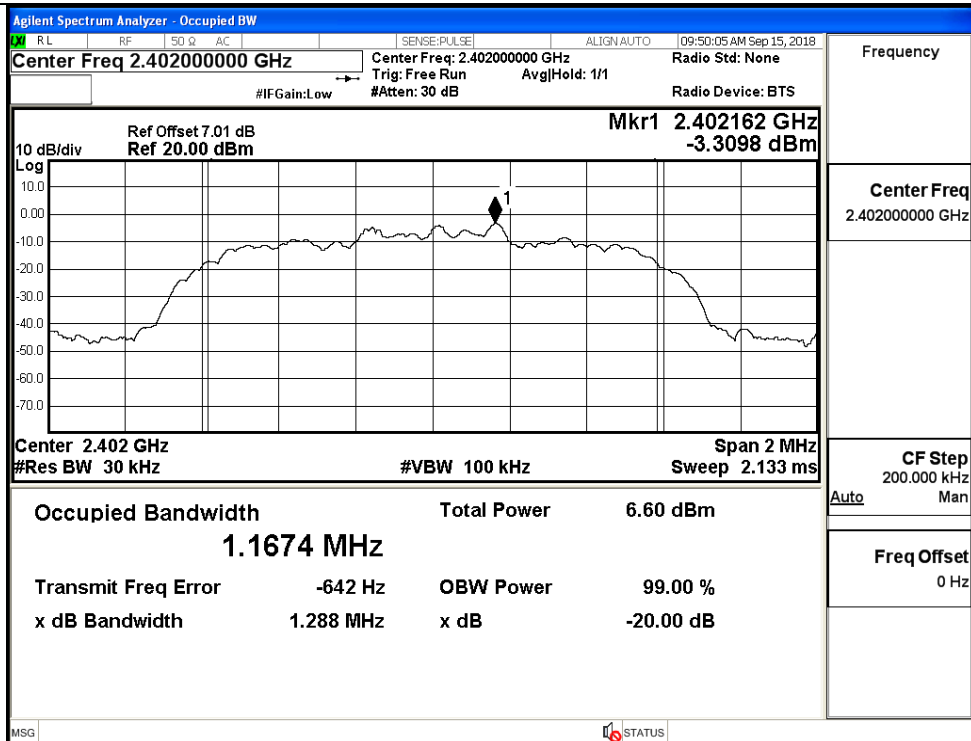
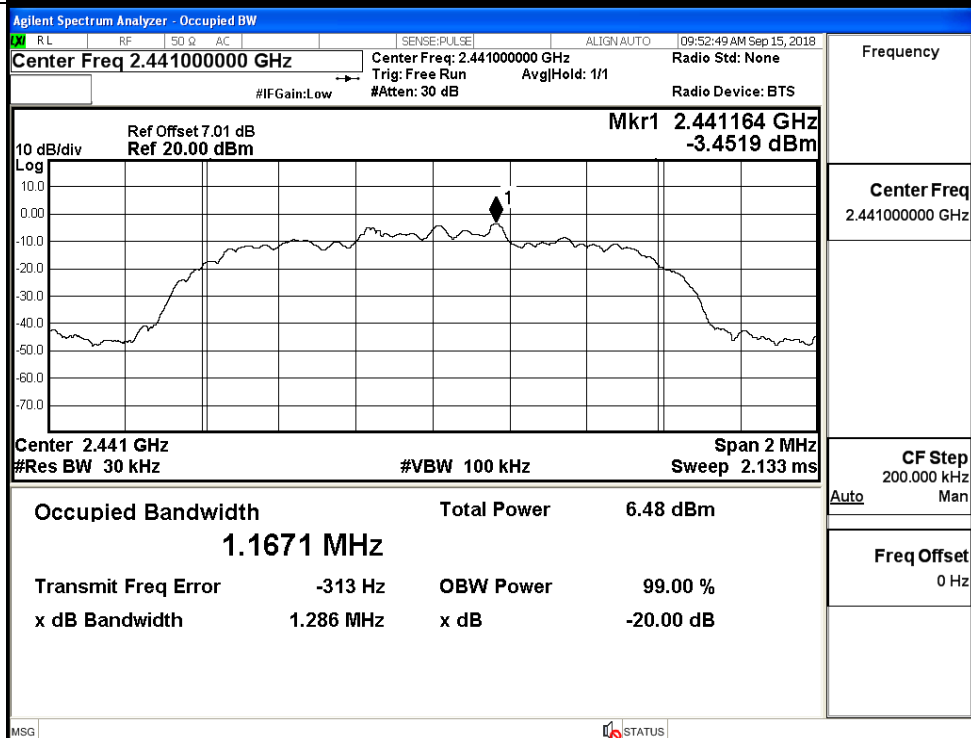


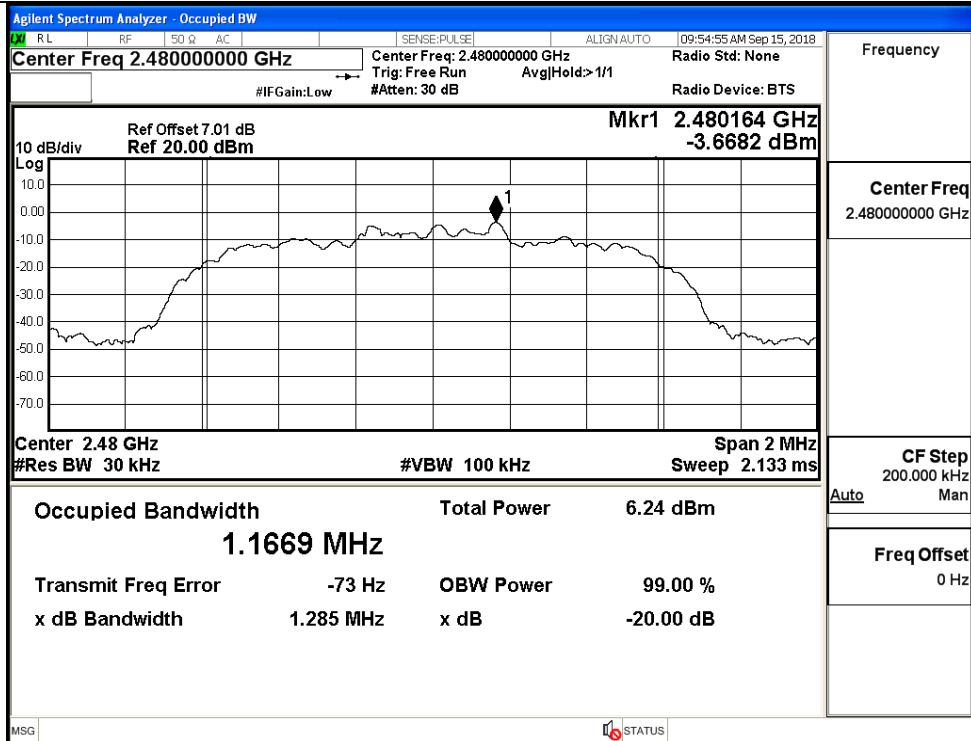
GFSK/MCH



GFSK/HCH



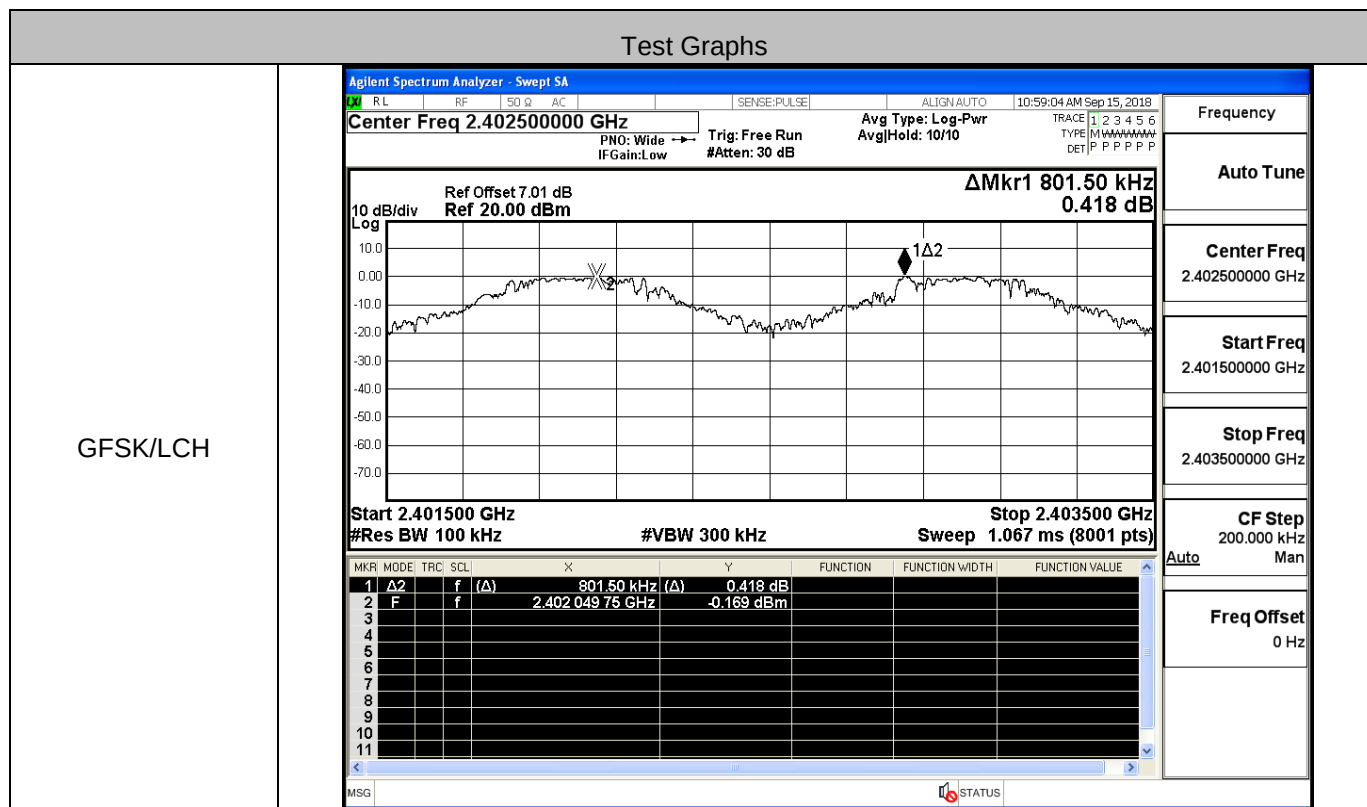
$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

$\pi/4$ DQPSK/HCH

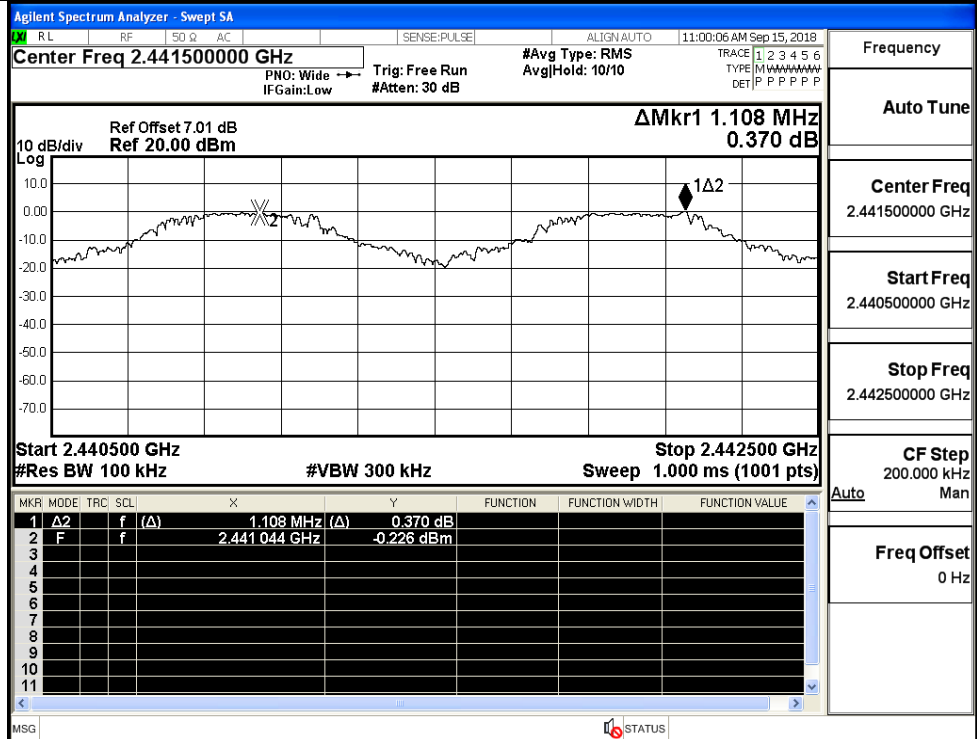
A.3 Carrier Frequency Separation

Mode	Channel.	Carrier Frequency Separation [MHz]	Limit [MHz]	Verdict
GFSK	LCH	0.802	0.691	PASS
	MCH	1.108	0.691	PASS
	HCH	1.104	0.691	PASS
$\pi/4$ DQPSK	LCH	1.122	0.859	PASS
	MCH	0.952	0.859	PASS
	HCH	1.054	0.859	PASS

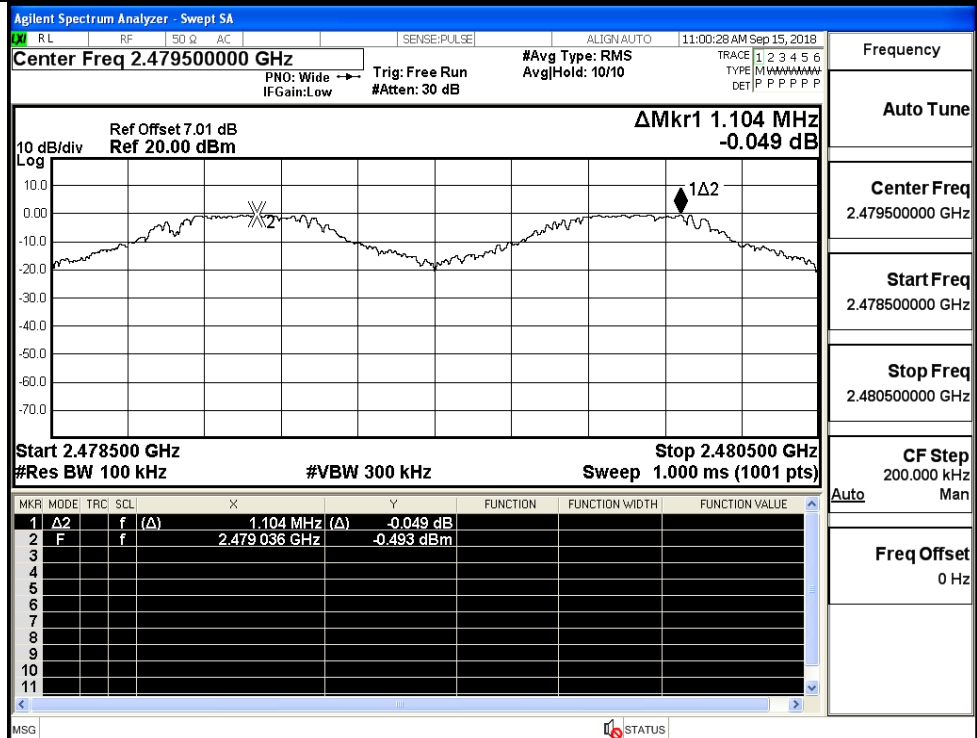
Test Graphs

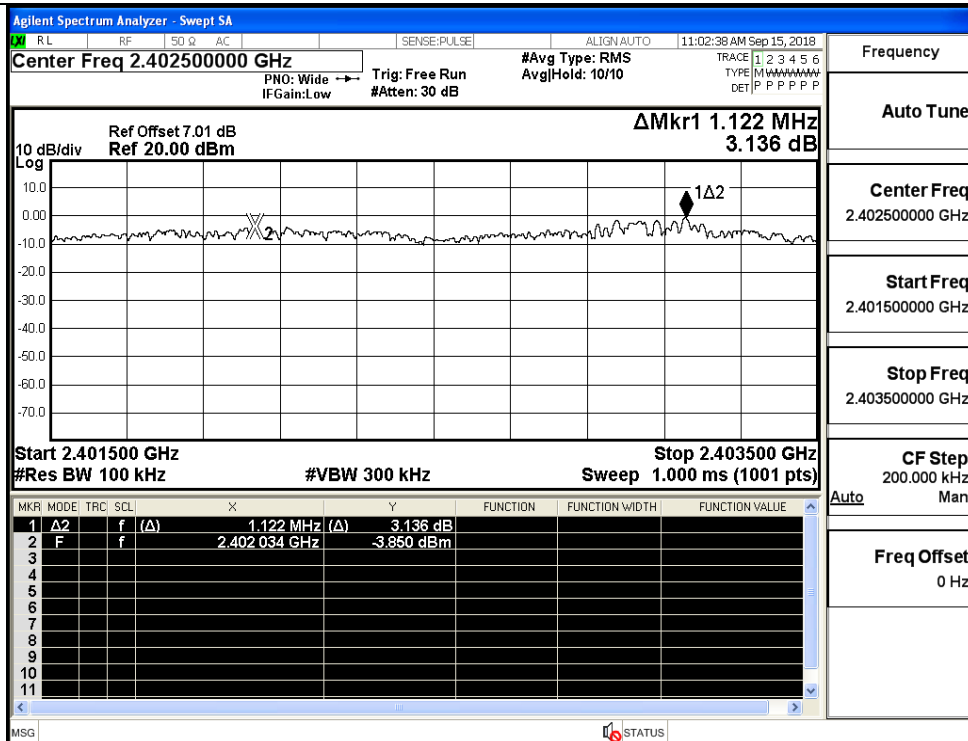
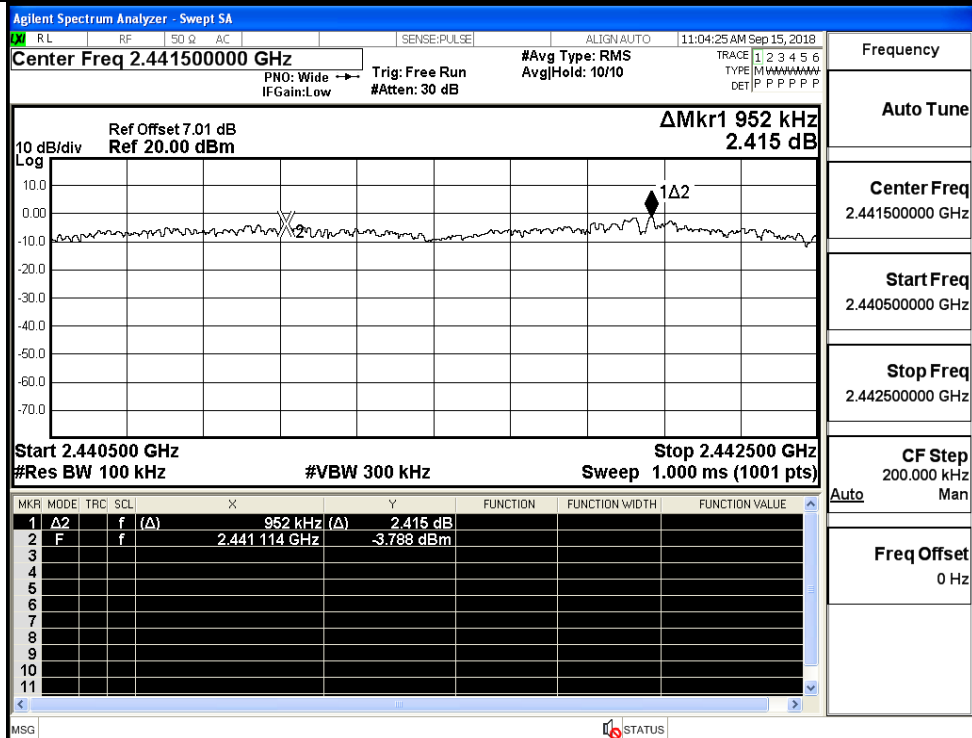


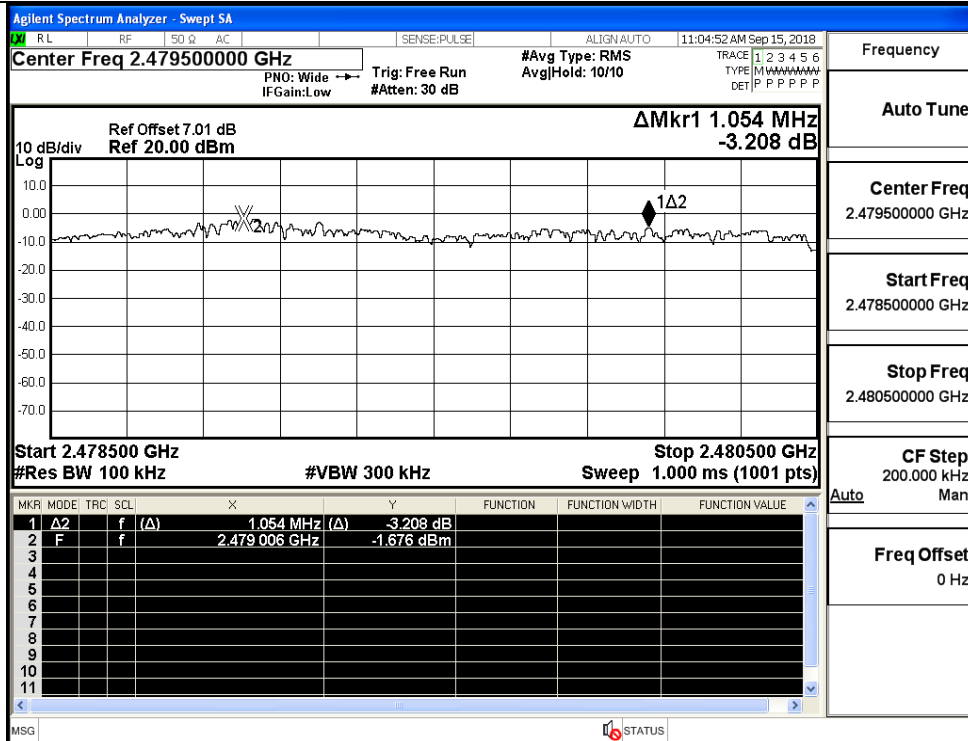
GFSK/MCH



GFSK/HCH



$\pi/4$ DQPSK/LCH $\pi/4$ DQPSK/MCH

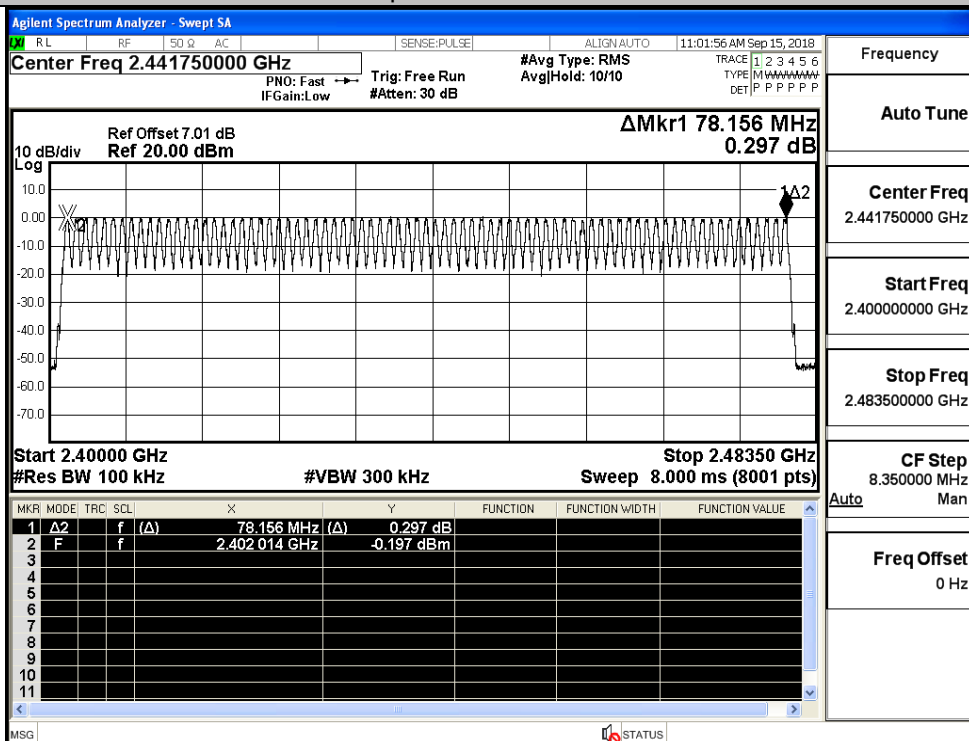
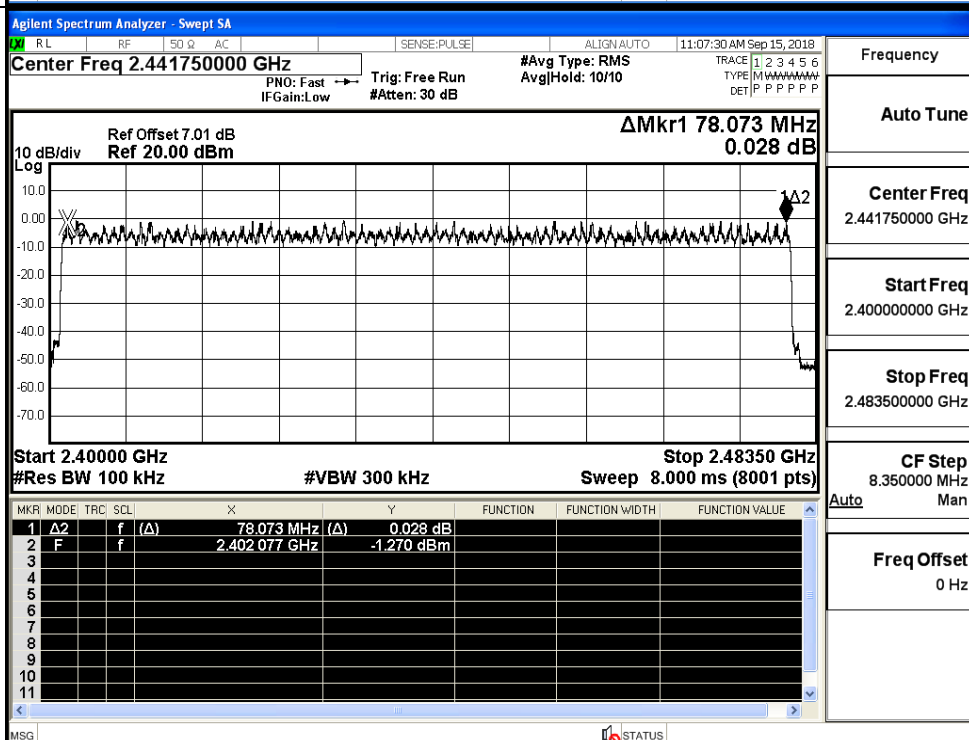
$\pi/4$ DQPSK/HCH

A.4 Hopping Channel Number

Mode	Channel.	Number of Hopping Channel [N]	Limit [N]	Verdict
GFSK	Hop	79	≥ 15	PASS
$\pi/4$ DQPSK	Hop	79	≥ 15	PASS

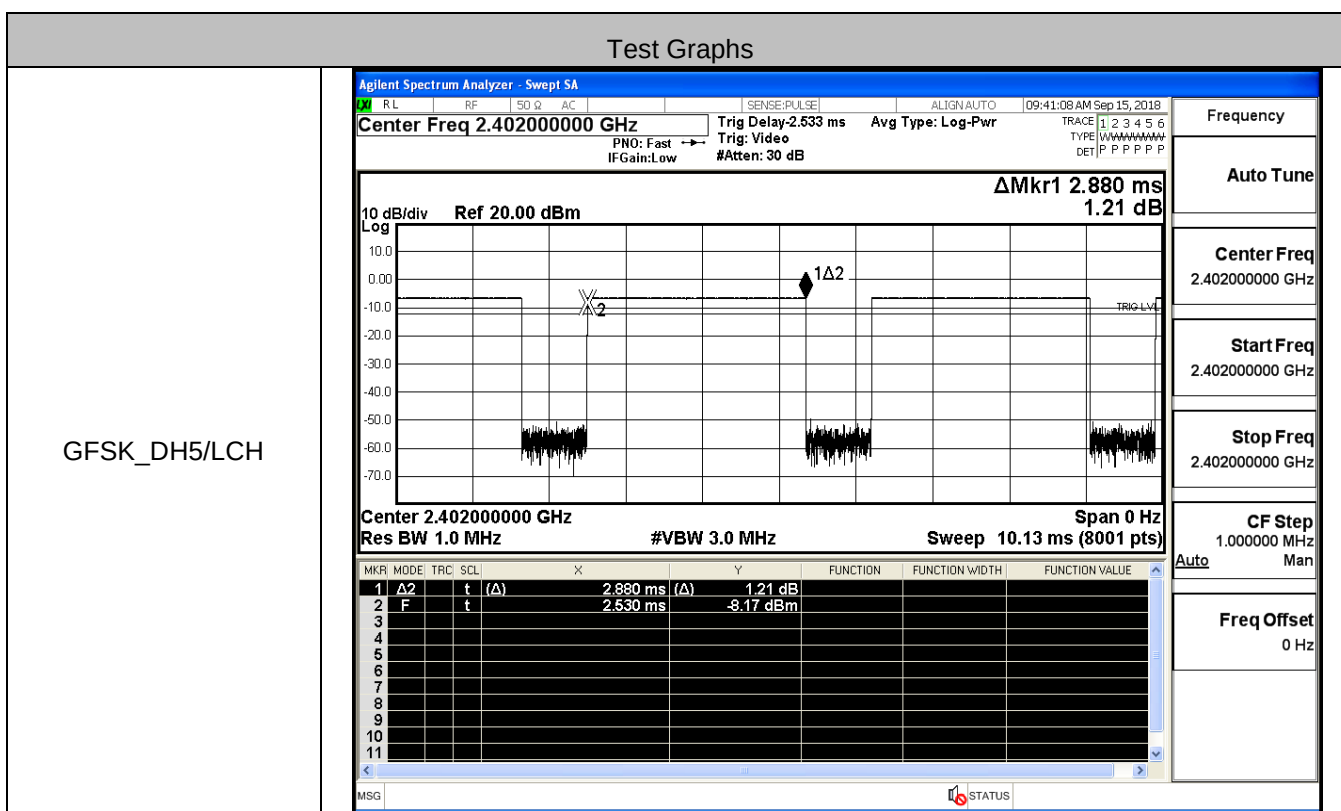
Test Graphs

GFSK/Hop

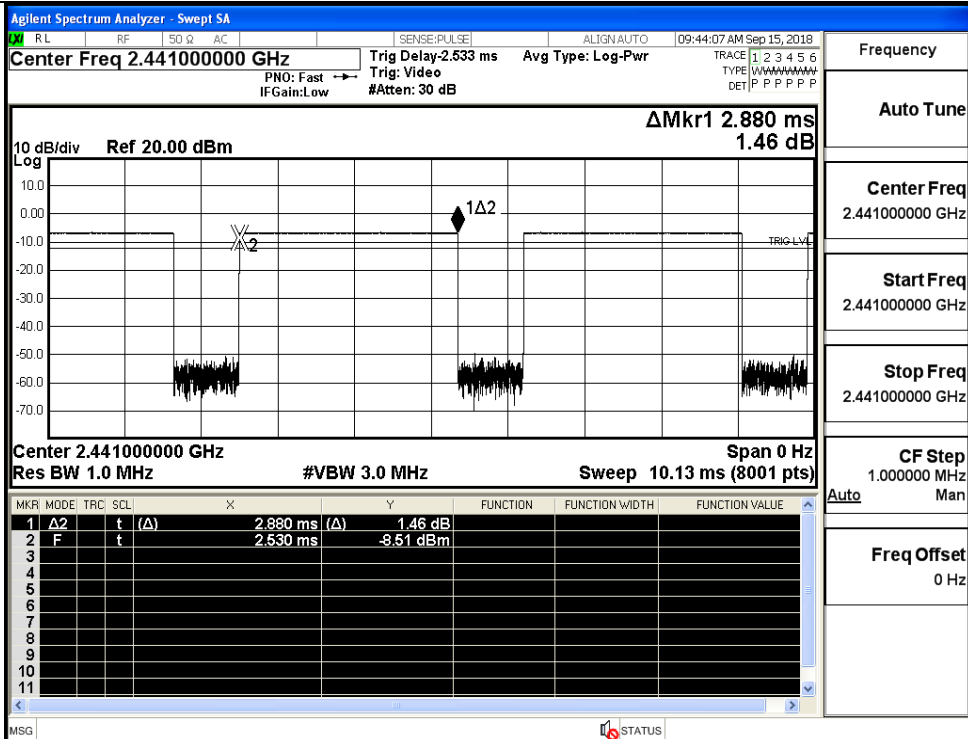
 $\pi/4$ DQPSK/Hop

A.5 Dwell Time

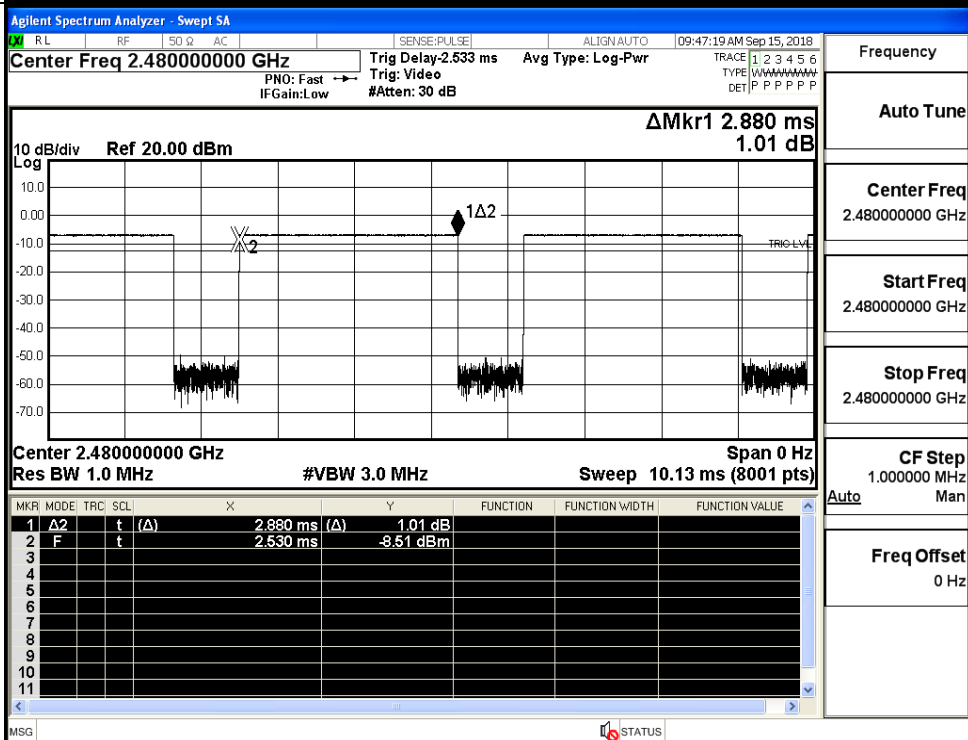
Mode	Packet	Channel	Burst Width [ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit [s]	Verdict
GFSK	DH5	LCH	2.88	106.7	0.307	0.4	PASS
	DH5	MCH	2.88	106.7	0.307	0.4	PASS
	DH5	HCH	2.88	106.7	0.307	0.4	PASS
$\pi/4$ DQPSK	2DH5	LCH	2.88	106.7	0.307	0.4	PASS
	2DH5	MCH	2.88	106.7	0.307	0.4	PASS
	2DH5	HCH	2.88	106.7	0.307	0.4	PASS



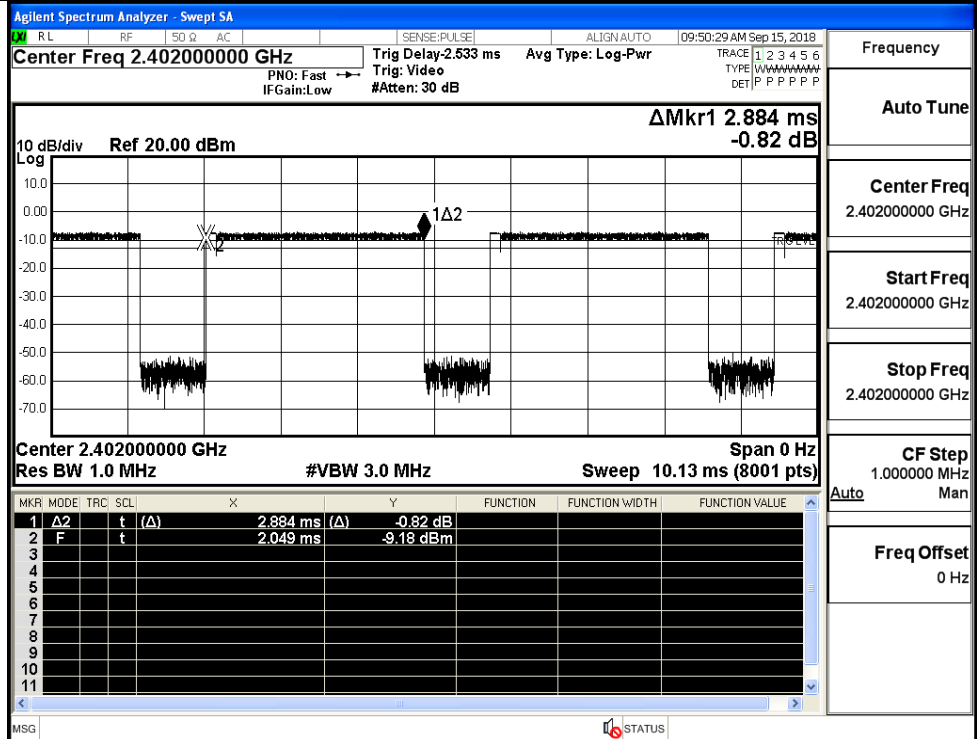
GFSK_DH5/MCH



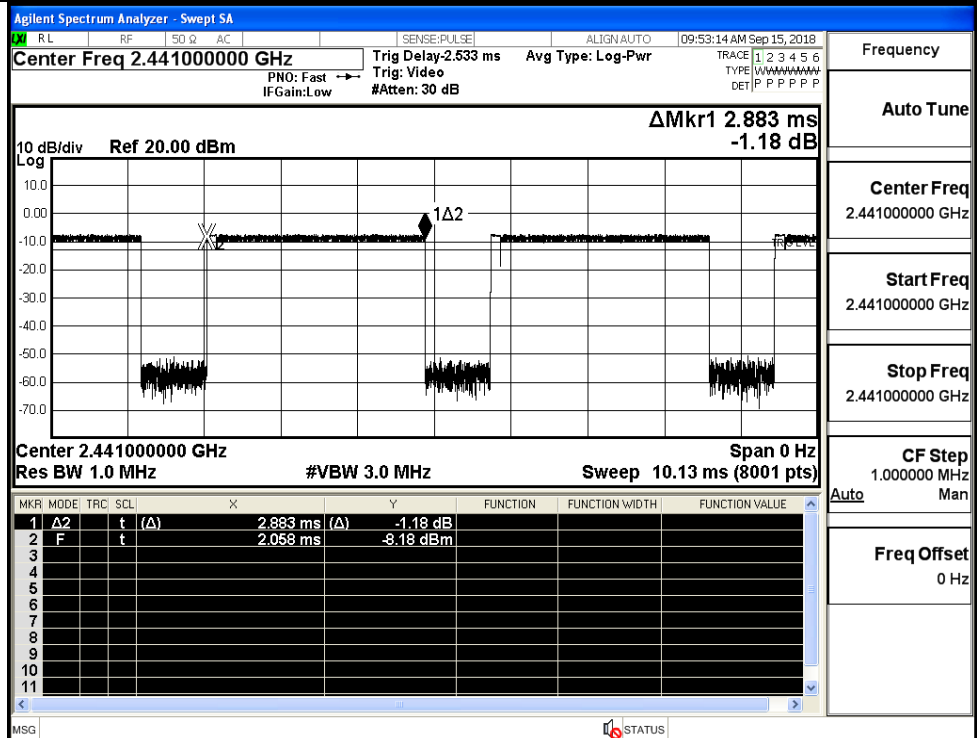
GFSK_DH5/HCH



$\pi/4$ DQPSK
_2DH5/LCH



$\pi/4$ DQPSK
_2DH5/MCH

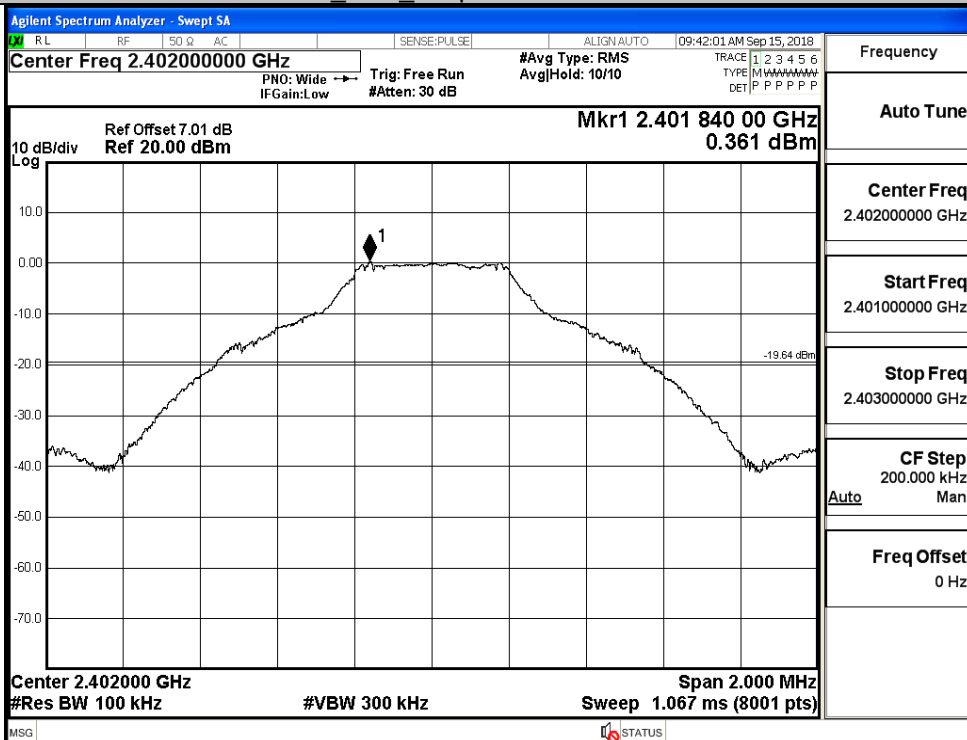


A.6 RF Conducted Spurious Emissions

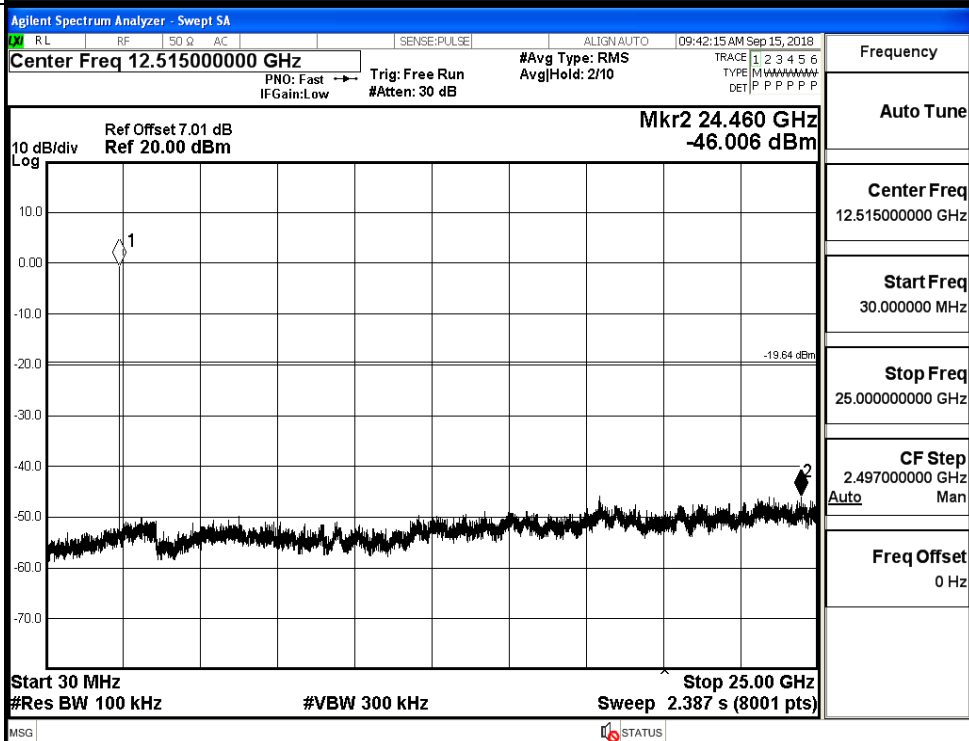
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	0.361	-46.006	-19.639	PASS
	MCH	-0.217	-45.841	-20.217	PASS
	HCH	-0.152	-45.590	-20.152	PASS
$\pi/4$ DQPSK	LCH	-0.677	-45.415	-20.677	PASS
	MCH	-0.853	-45.255	-20.853	PASS
	HCH	-1.033	-45.166	-21.033	PASS

GFSK LCH Graphs

Pref

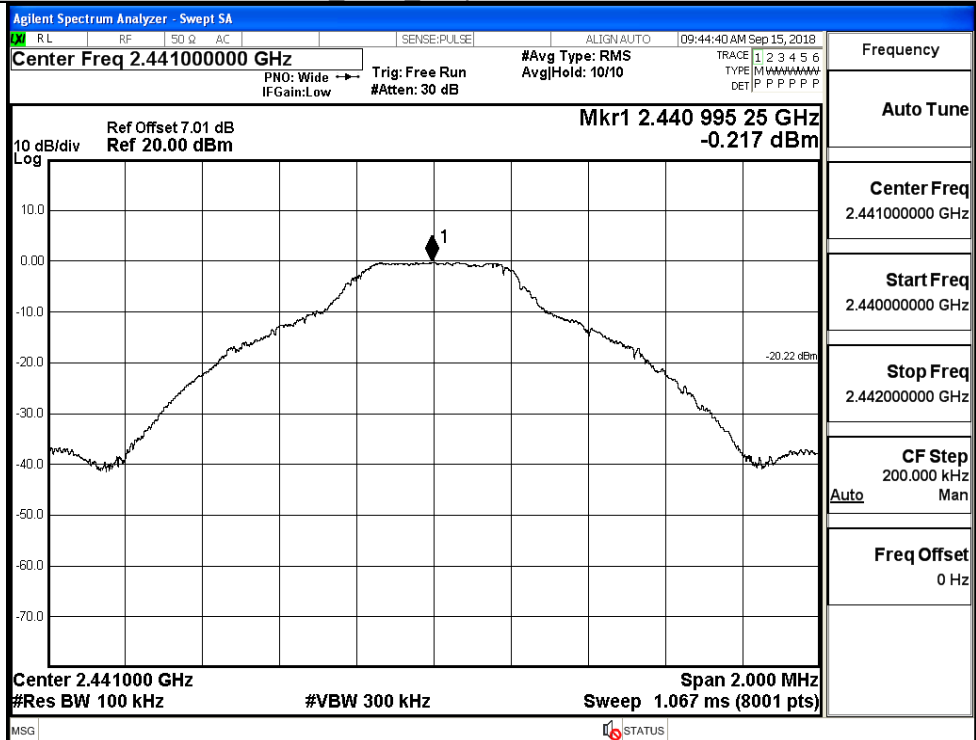


Puw

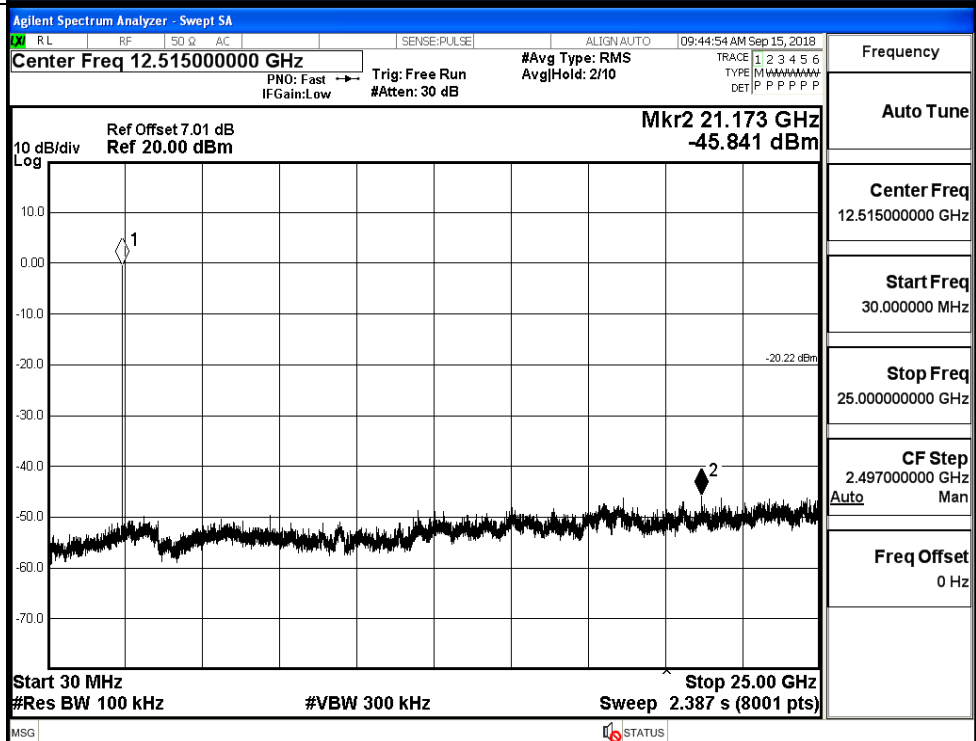


GFSK_MCH_Graphs

Pref

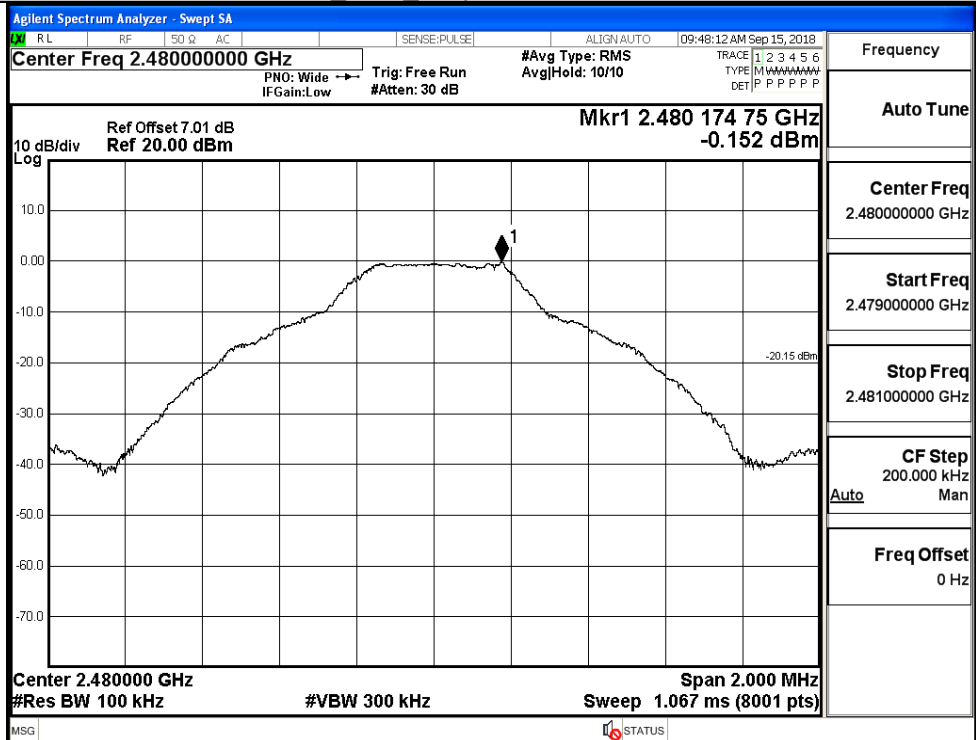


Puw

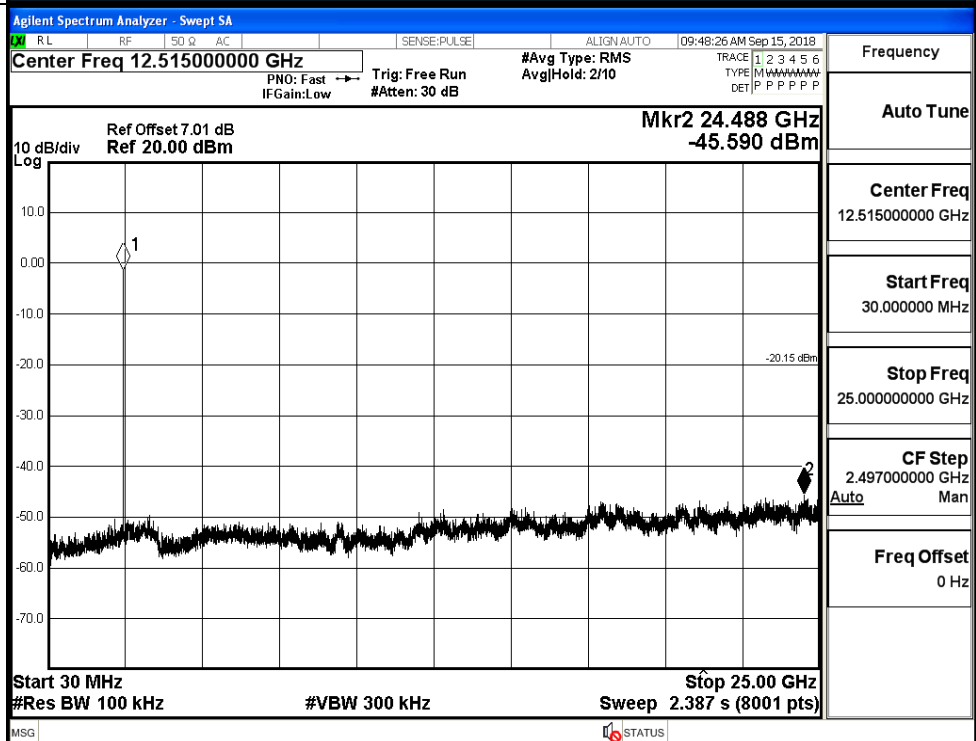


GFSK_HCH_Graphs

Pref

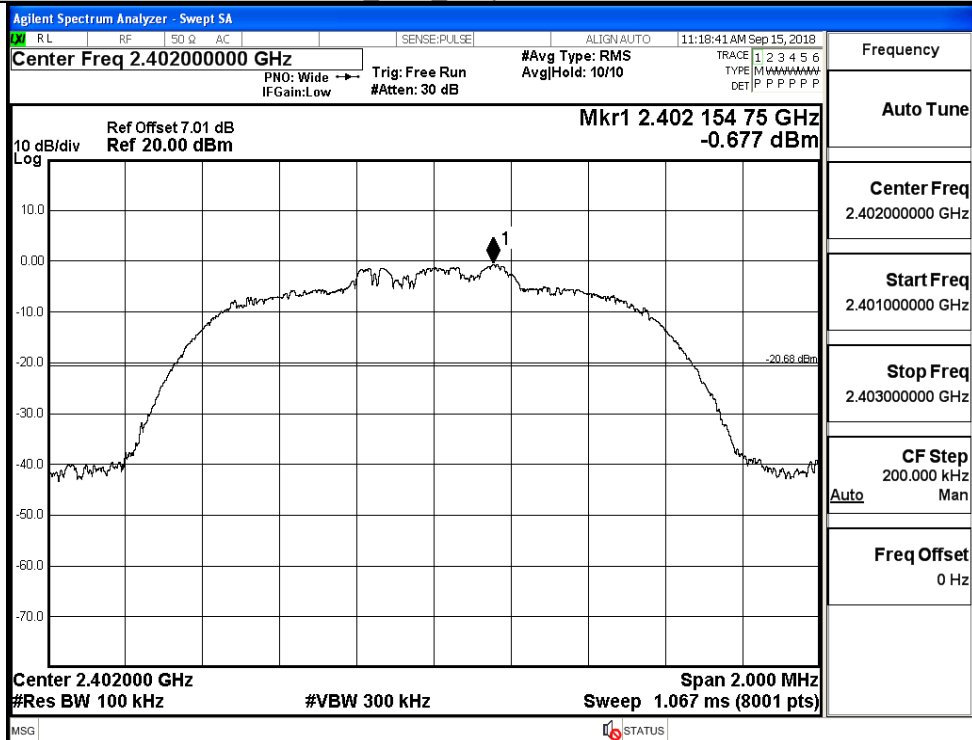


Puw

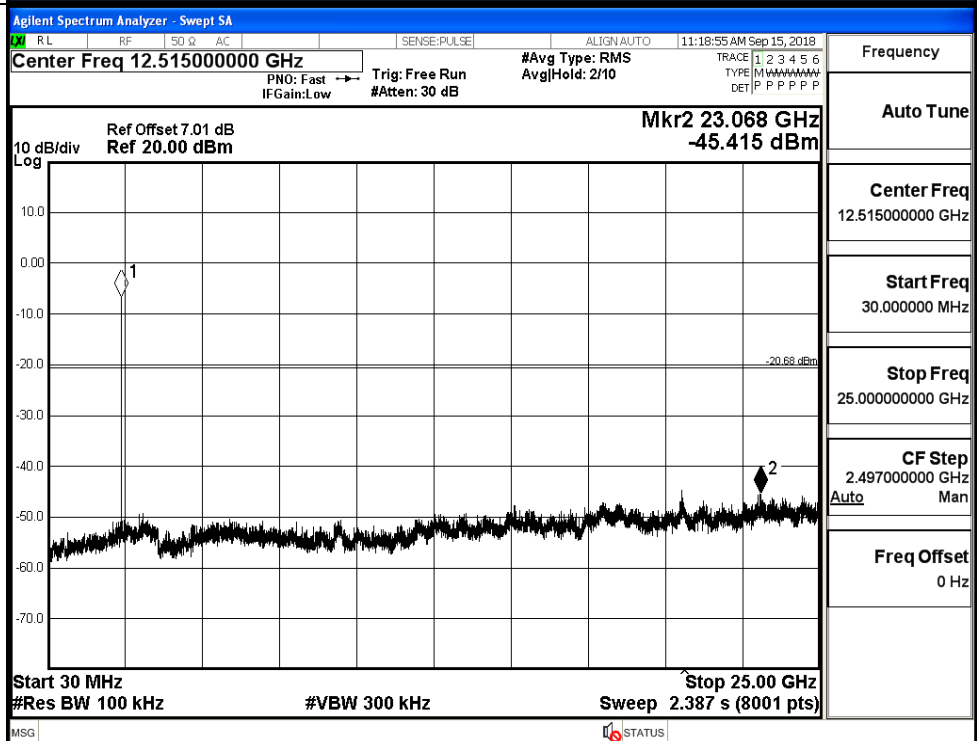


π /4DQPSK_LCH_Graphs

Pref

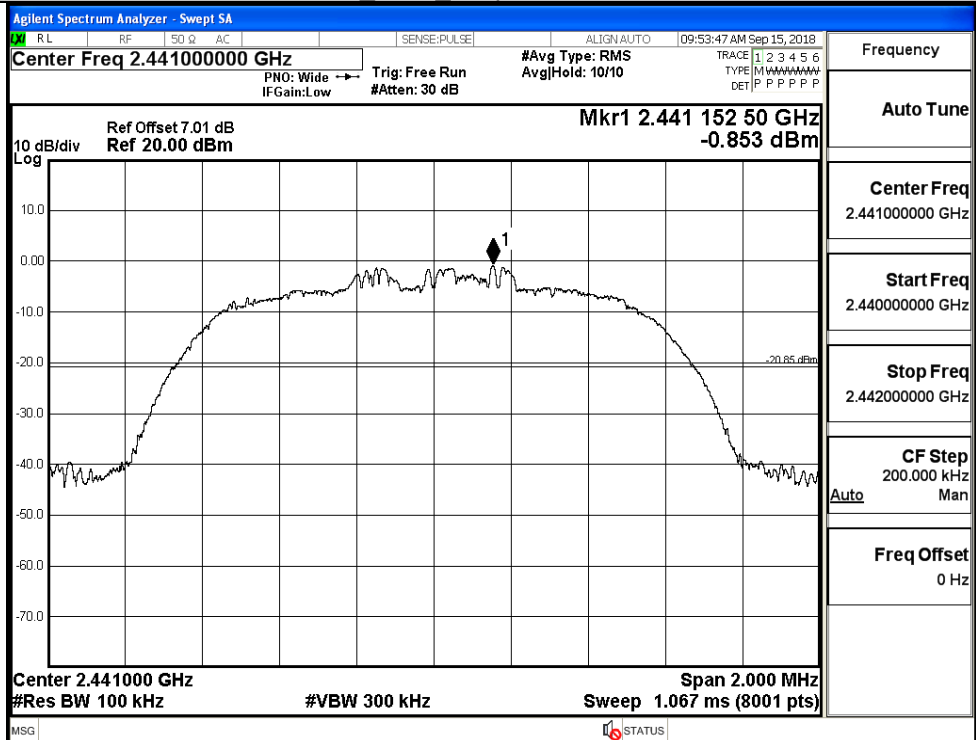


Puw

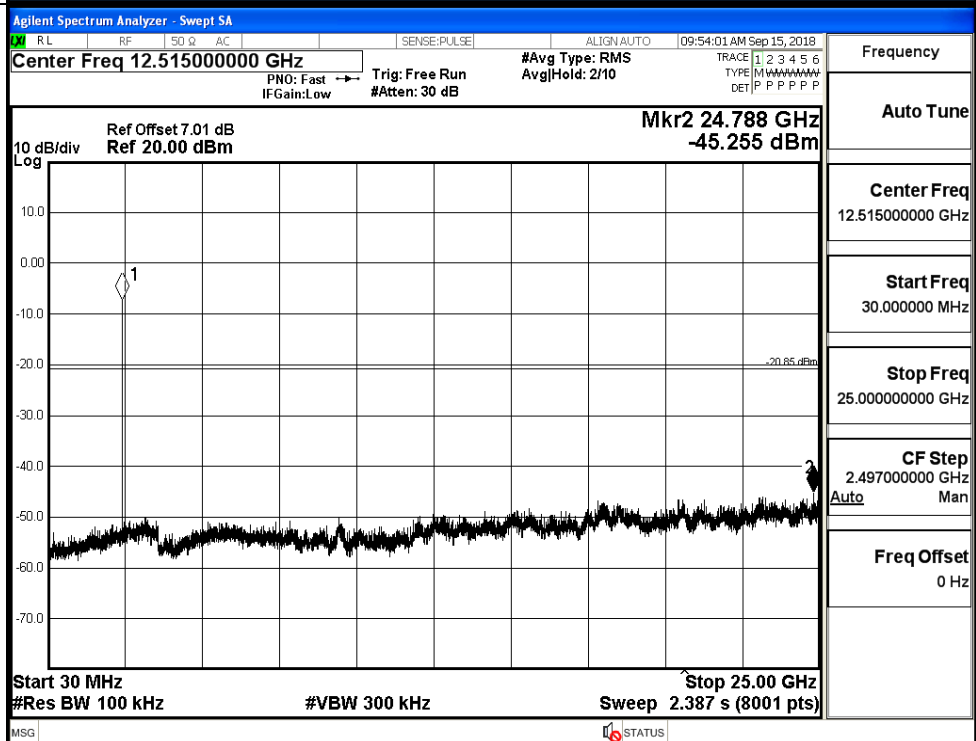


π /4DQPSK_MCH_Graphs

Pref

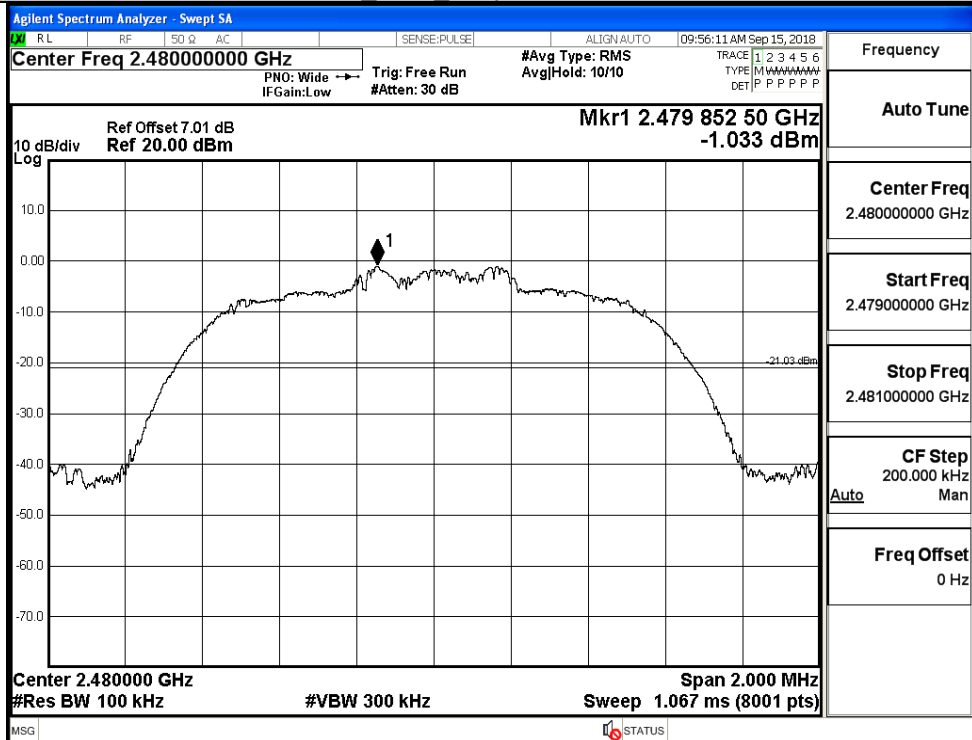


Puw

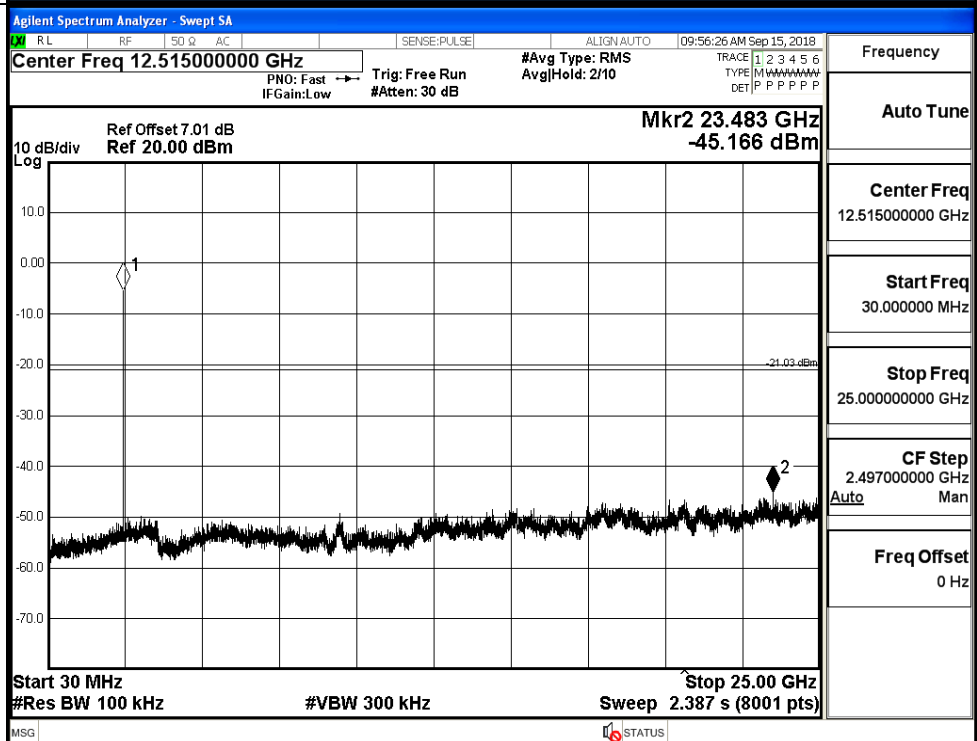


$\pi/4$ DQPSK_HCH_Graphs

Pref



Puw

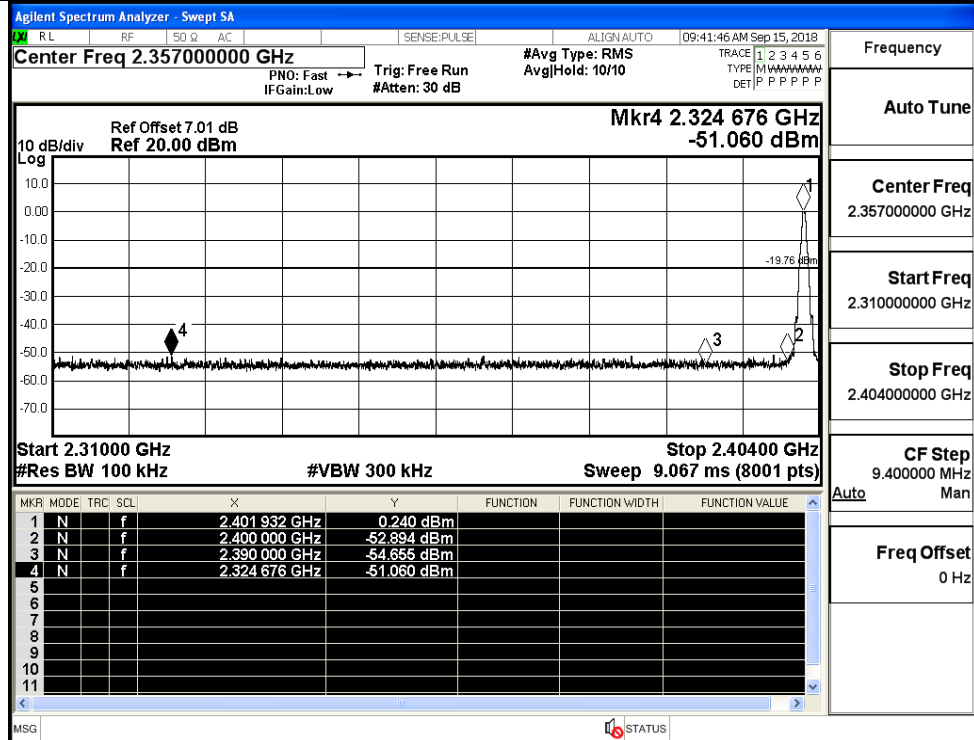


A.7 Band-edge for RF Conducted Emissions

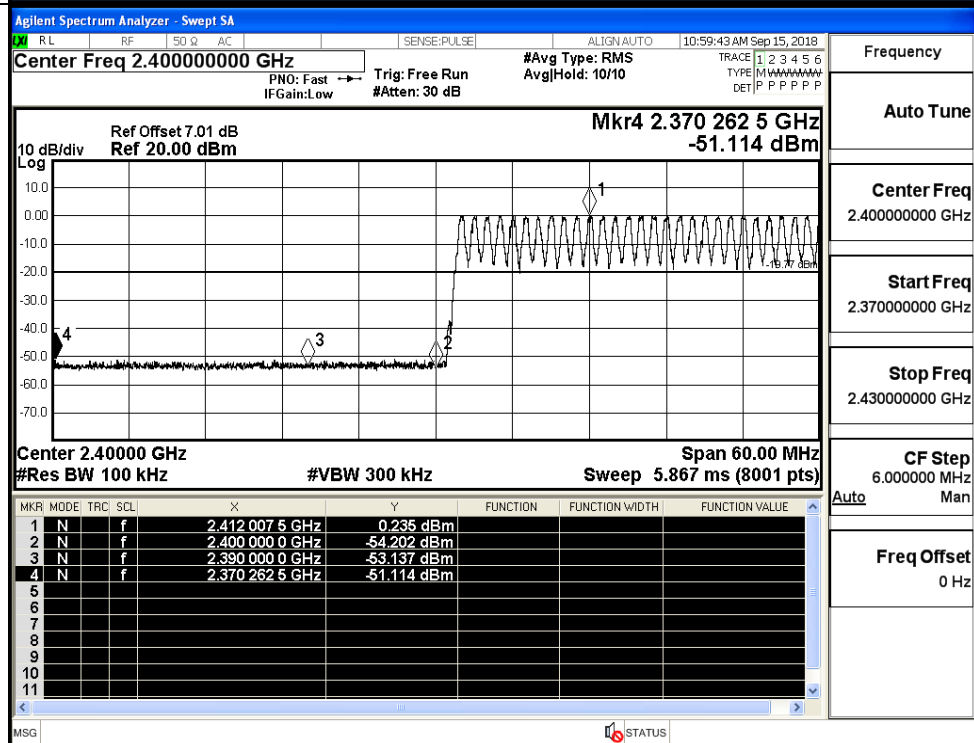
Mode	Channel	Carrier Frequency [MHz]	Carrier Power [dBm]	Frequency Hopping	Max Spurious Level [dBm]	Limit [dBm]	Verdict
GFSK	LCH	2402	0.240	Off	-51.060	-19.76	PASS
			0.235	On	-51.114	-19.77	PASS
	HCH	2480	-0.001	Off	-51.232	-20	PASS
			0.152	On	-50.964	-19.85	PASS
$\pi/4$ DQPSK	LCH	2402	-2.381	Off	-50.910	-22.38	PASS
			-0.598	On	-50.663	-20.6	PASS
	HCH	2480	-0.942	Off	-50.924	-20.94	PASS
			-0.938	On	-50.277	-20.94	PASS

Test Graphs

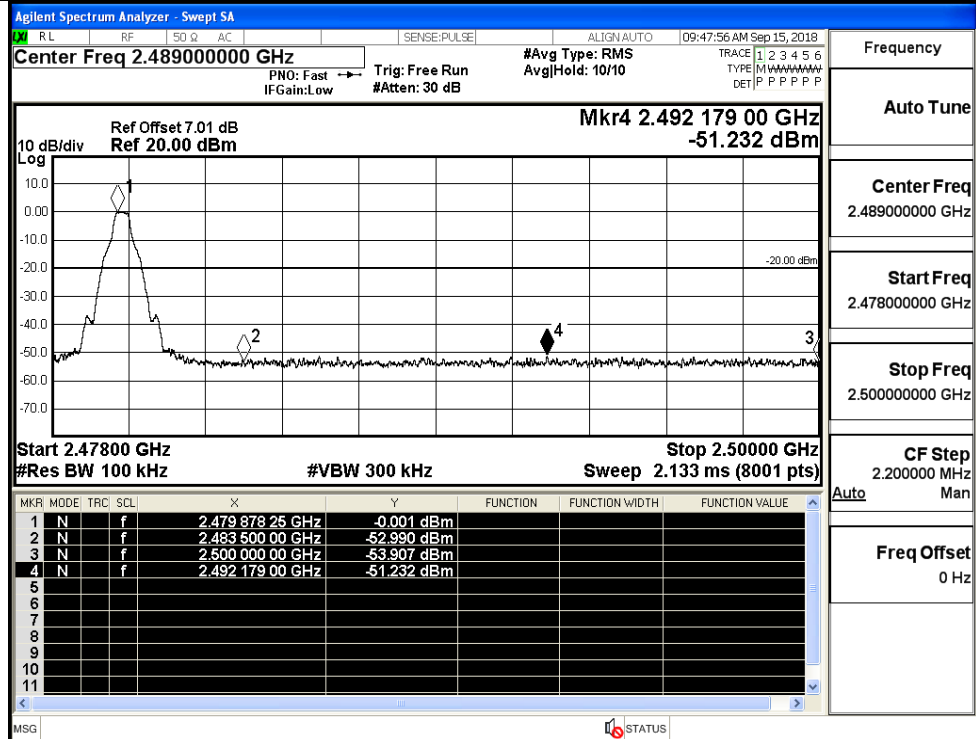
GFSK/LCH/No Hop



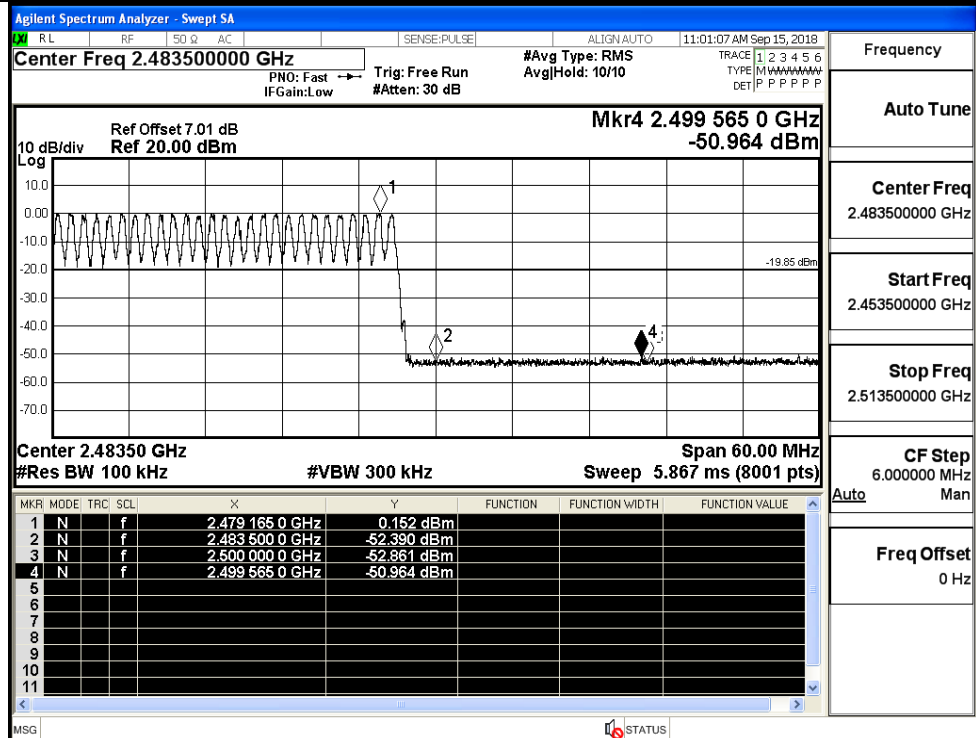
GFSK/LCH/Hop



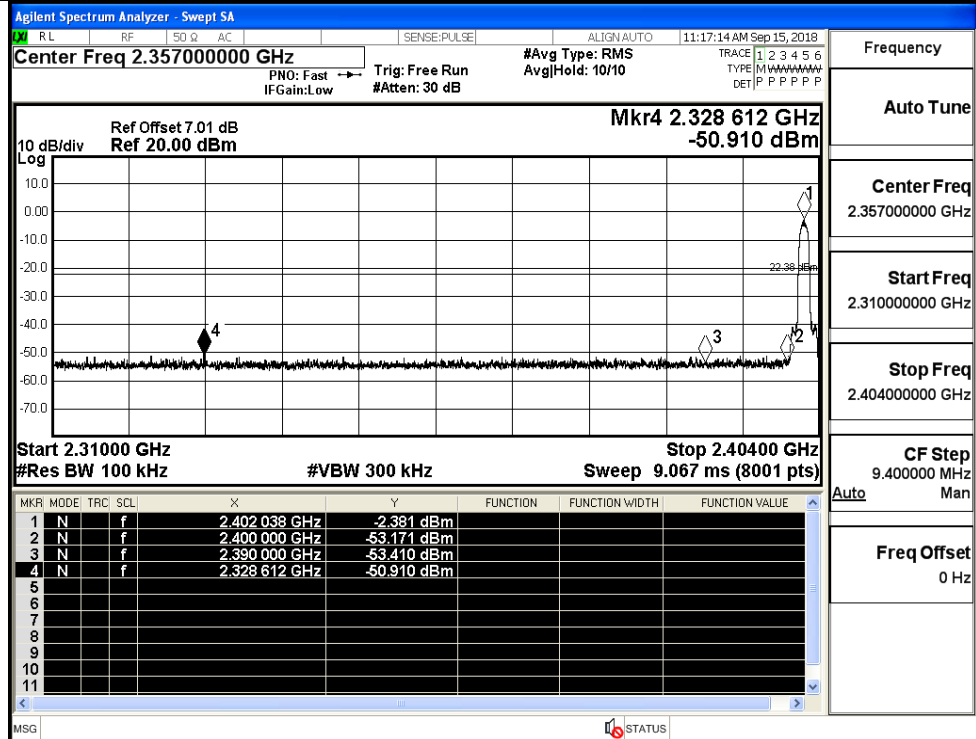
GFSK/HCH/No Hop



GFSK/HCH/Hop



$\pi/4$ DQPSK/LCH/No
Hop



Frequency

Auto Tune

Center Freq
2.357000000 GHz

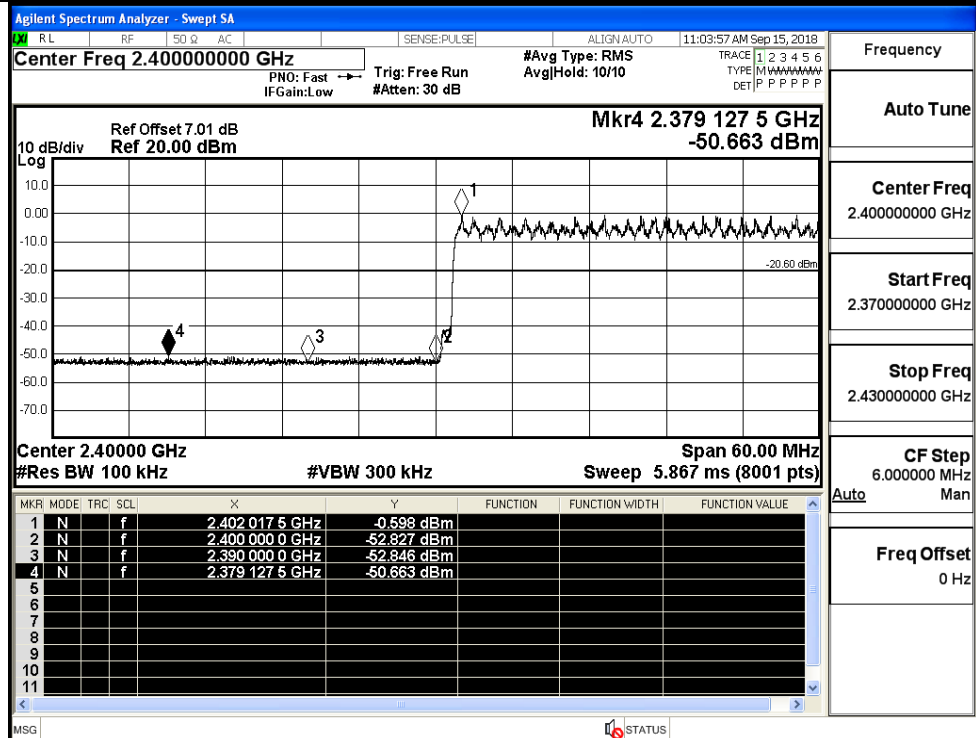
Start Freq
2.310000000 GHz

Stop Freq
2.404000000 GHz

CF Step
9.400000 MHz
Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/LCH/Hop



Frequency

Auto Tune

Center Freq
2.400000000 GHz

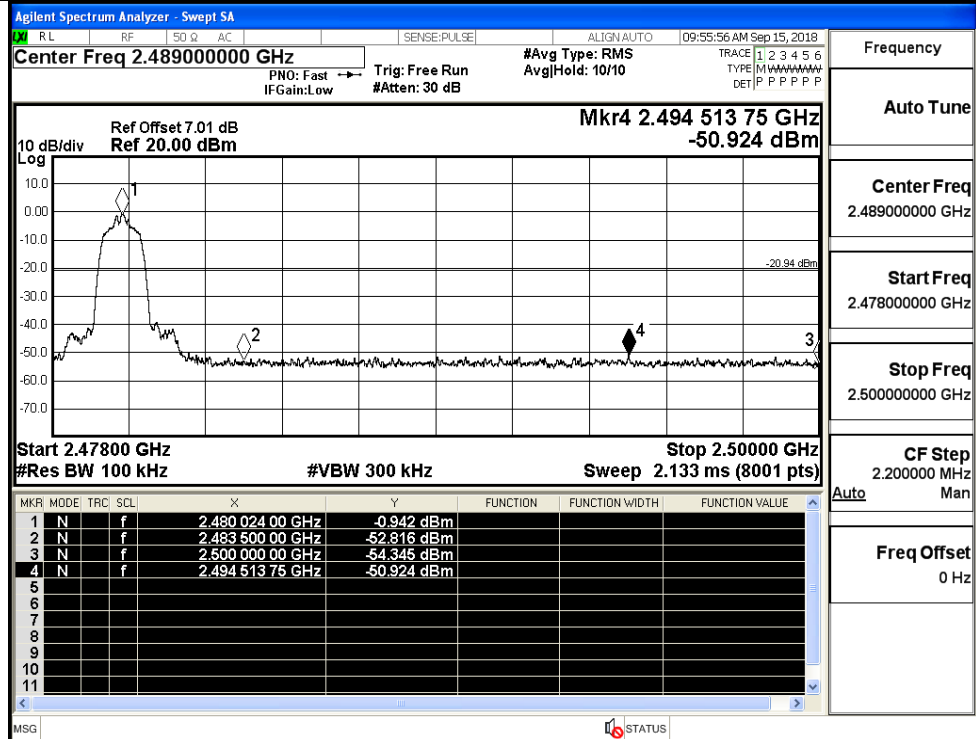
Start Freq
2.370000000 GHz

Stop Freq
2.430000000 GHz

CF Step
6.000000 MHz
Auto Man

Freq Offset
0 Hz

$\pi/4$ DQPSK/HCH/No
Hop

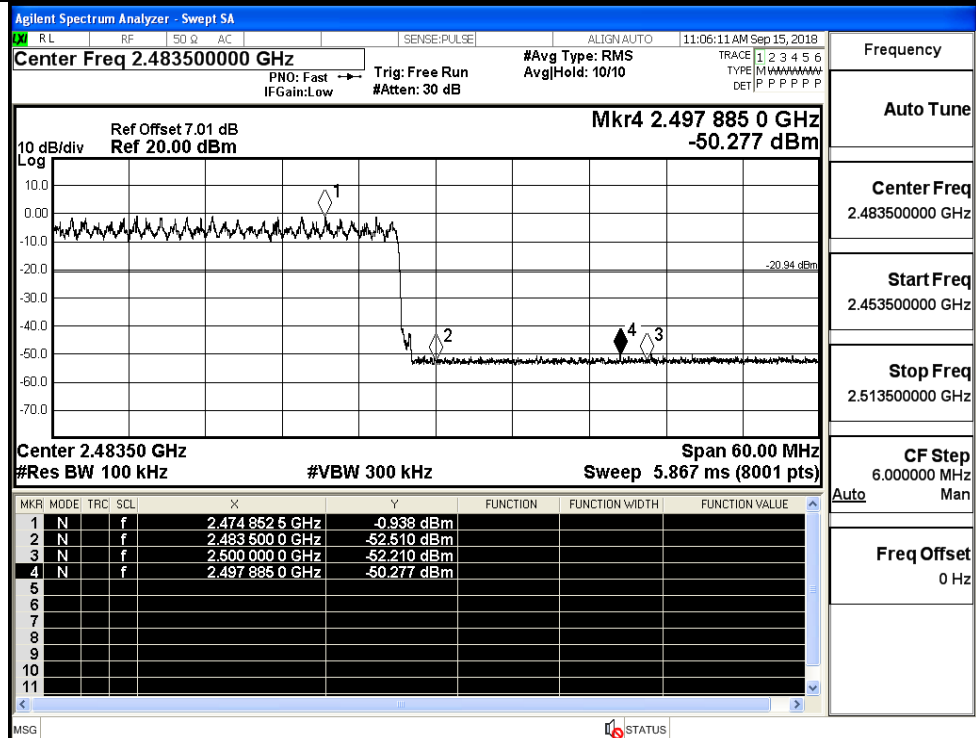


Frequency

Auto Tune

Center Freq
2.489000000 GHzStart Freq
2.478000000 GHzStop Freq
2.500000000 GHzCF Step
2.200000 MHz
Auto ManFreq Offset
0 Hz

$\pi/4$ DQPSK/HCH/Hop



Frequency

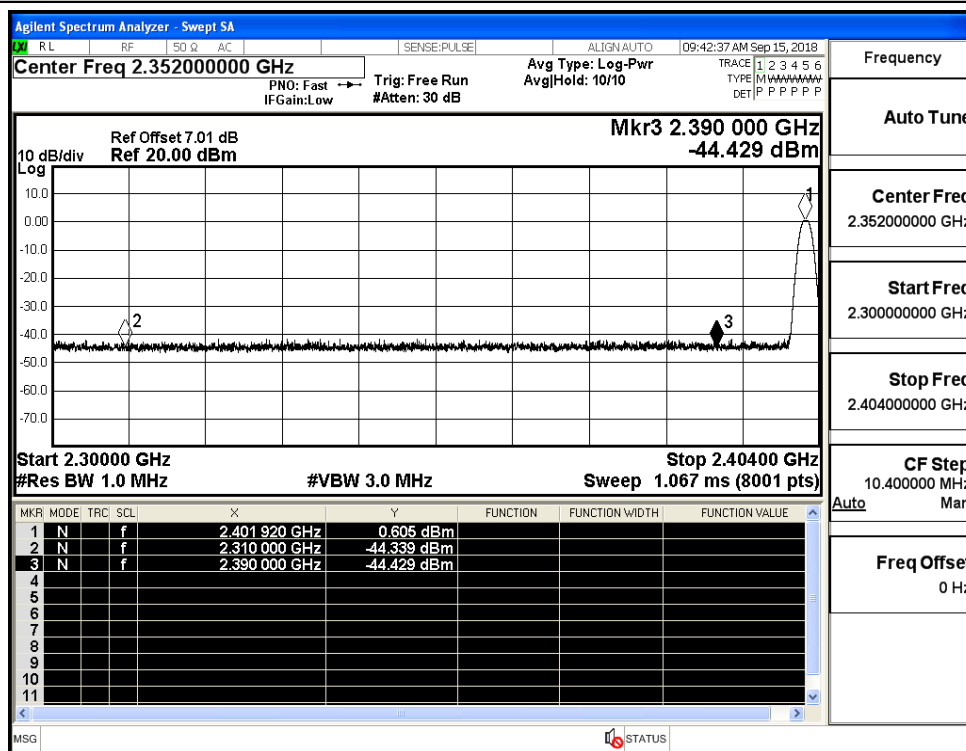
Auto Tune

Center Freq
2.483500000 GHzStart Freq
2.453500000 GHzStop Freq
2.513500000 GHzCF Step
6.000000 MHz
Auto ManFreq Offset
0 Hz

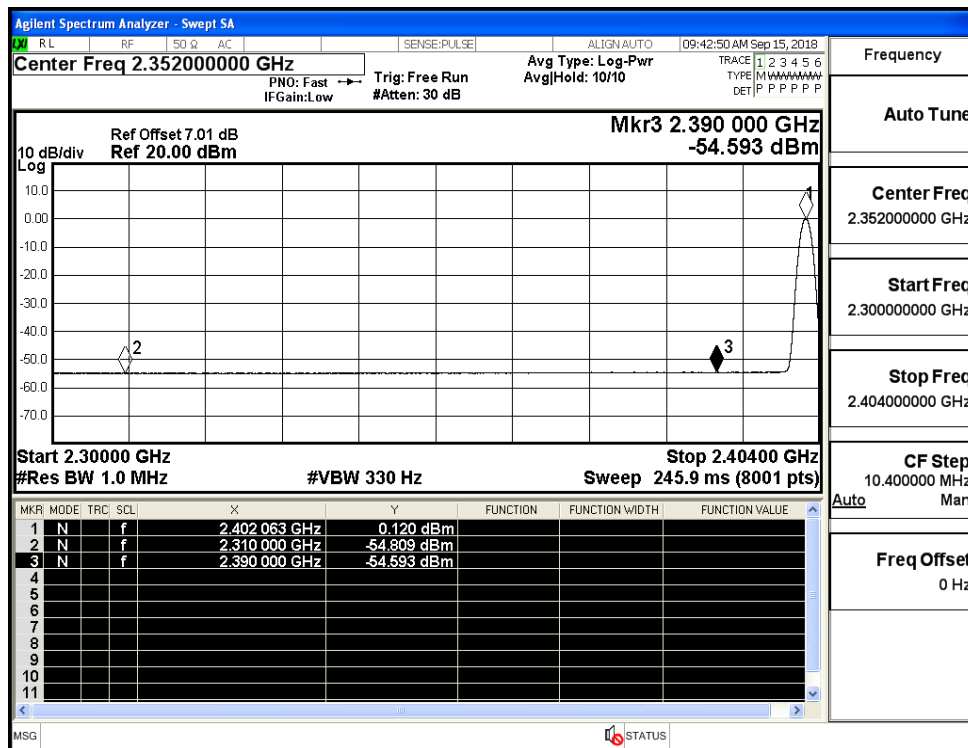
A.8 Restrict-band band-edge measurements

Test Mode	Hopping	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
GFSK	Off	2310.0	-44.34	2.0	0	52.92	PEAK	74	PASS
	Off	2310.0	-54.81	2.0	0	42.45	AV	54	PASS
	Off	2390.0	-44.43	2.0	0	52.83	PEAK	74	PASS
	Off	2390.0	-54.59	2.0	0	42.66	AV	54	PASS
	Off	2483.5	-44.68	2.0	0	52.58	PEAK	74	PASS
	Off	2483.5	-54.36	2.0	0	42.90	AV	54	PASS
	Off	2500.0	-44.15	2.0	0	53.10	PEAK	74	PASS
	Off	2500.0	-54.19	2.0	0	43.07	AV	54	PASS
$\pi/4$ DQPSK	Off	2310.0	-44.03	2.0	0	53.23	PEAK	74	PASS
	Off	2310.0	-54.80	2.0	0	42.45	AV	54	PASS
	Off	2390.0	-44.53	2.0	0	52.73	PEAK	74	PASS
	Off	2390.0	-54.47	2.0	0	42.79	AV	54	PASS
	Off	2483.5	-44.98	2.0	0	52.28	PEAK	74	PASS
	Off	2483.5	-54.25	2.0	0	43.01	AV	54	PASS
	Off	2500.0	-42.52	2.0	0	54.74	PEAK	74	PASS
	Off	2500.0	-54.04	2.0	0	43.22	AV	54	PASS

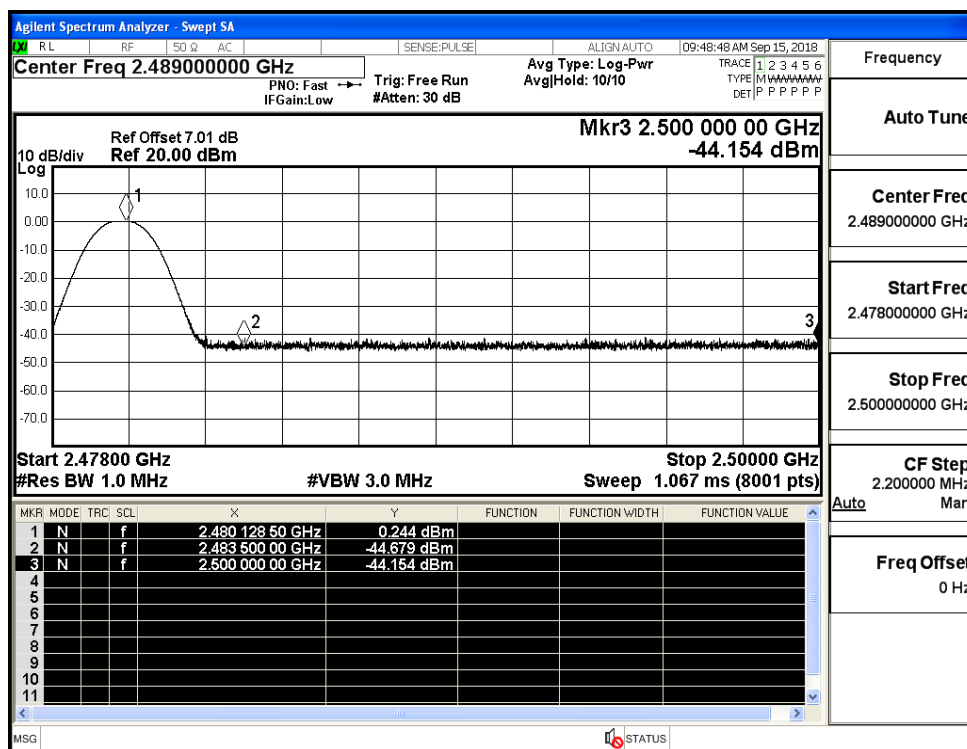
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (Low Channel)



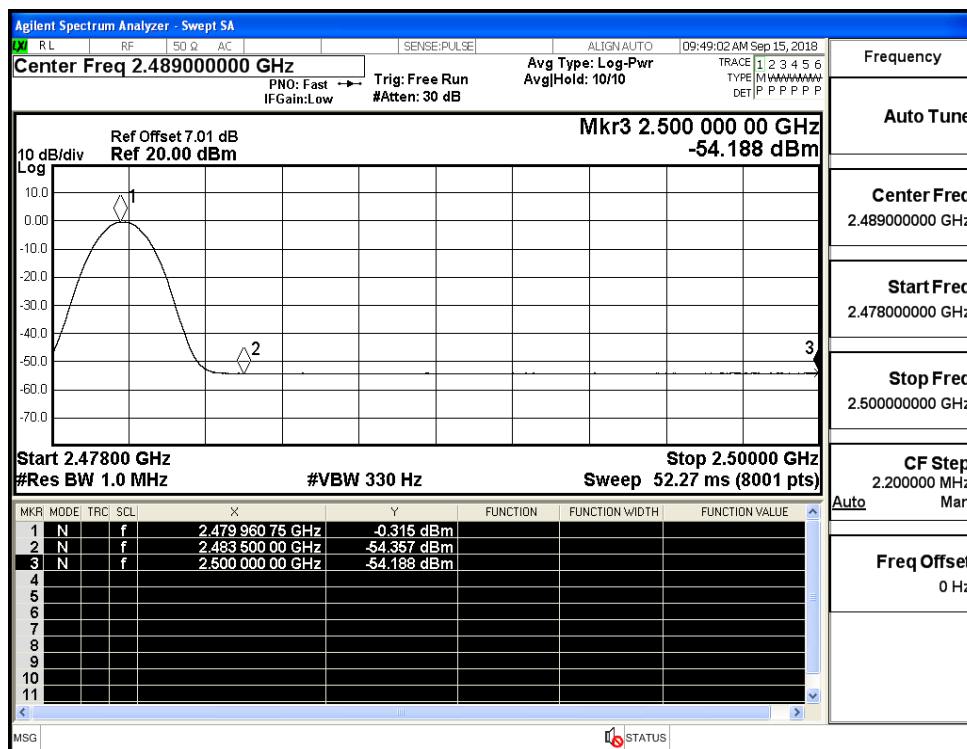
Restrict-band band-edge measurements_Hopping Off_GFSK_Average (Low Channel)

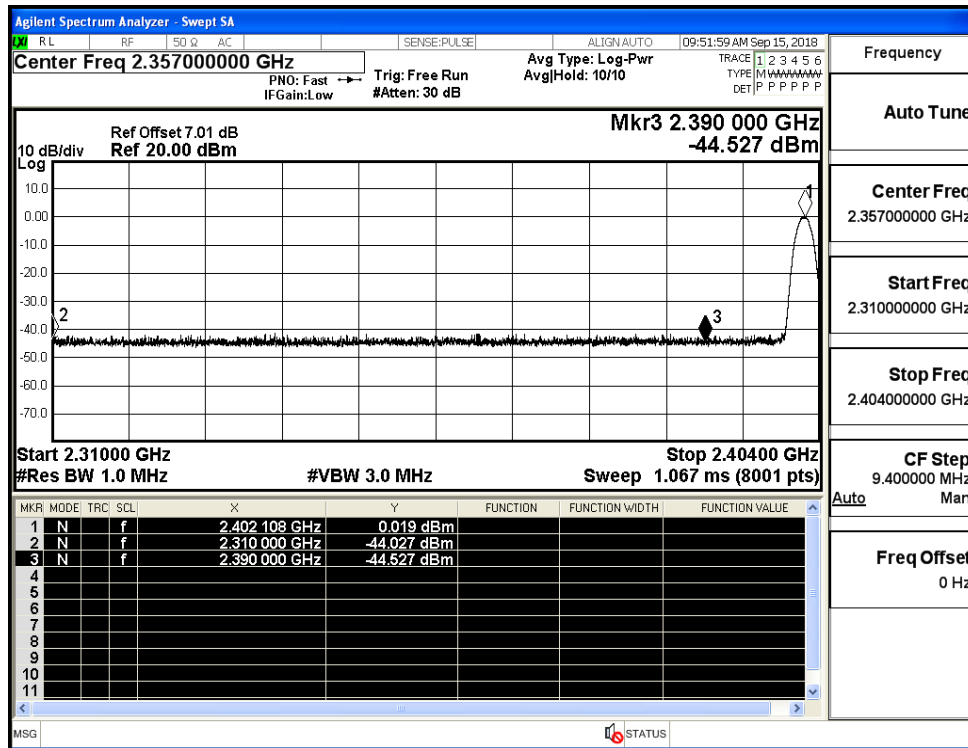
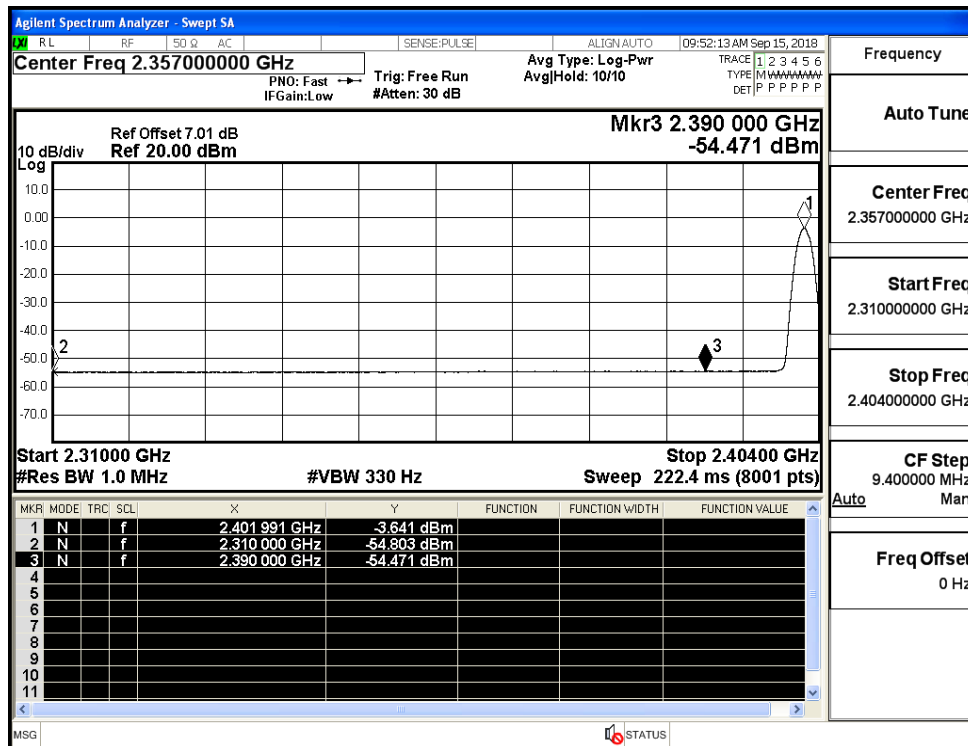


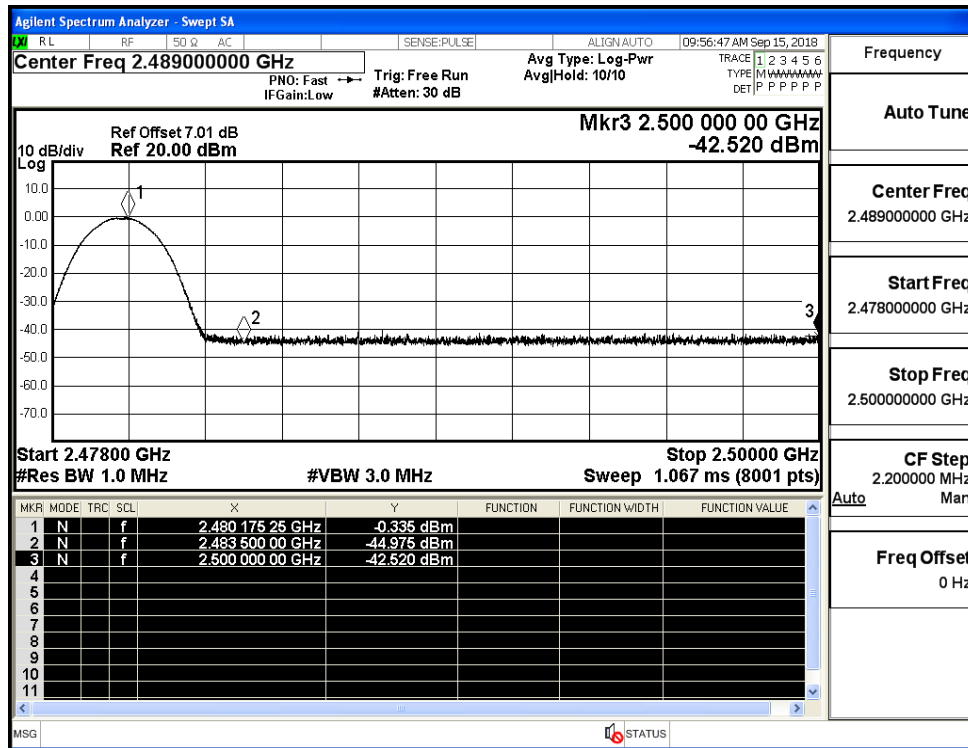
Restrict-band band-edge measurements_Hopping Off_GFSK_PEAK (High Channel)



Restrict-band band-edge measurements_Hopping Off_GFSK_Average (High Channel)



Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (Low Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (Low Channel)

Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_PEAK (High Channel)Restrict-band band-edge measurements_Hopping Off $\pi/4$ -DQPSK_Average (High Channel)